

**REVISION OF THE PTINIDÆ OF BOREAL AMERICA.**

BY H. C. FALL.

To American students, who, in accepting the classification sanctioned by our two great Coleopterists, Drs. LeConte and Horn, have long been accustomed to include in this family the Bostrychinae and Lyctinae, the above title may appear too pretentious. I fully concur with the opinion, which seems to be gaining ground generally, that the Bostrychinae are worthy of ranking as an independent family. The Lyctinae have always been a source of trouble and many and diverse have been the opinions as to their relationship. It is by no means certain that their affinities are not more strongly Clavicorn than Serricorn and possibly they could not better be disposed of than in the manner suggested by Major Casey in his Coleopterological Notices II. (Annals of New York Academy of Sciences, p. 494), where reasons are given for including them in a more broadly conceived Cucujidæ.

Removing from the Ptinidæ these disturbing elements—the Bostrychinae and Lyctinae—the family is divisible into two very unequal subfamilies, the Ptininae and Anobiinae, long separated by systematists primarily by the difference in the point of insertion of the antennæ. These two subfamilies approach one another in our fauna through the genera *Hedobia* and *Eucrada*, hitherto included among the Ptininae, but which in the present paper are transferred to the Anobiinae, with which subfamily they appear to have more in common, and which because of its greater heterogeneity is less disturbed by their reception. In any case the two genera are truly intermediate forms, and whichever course prevails their relative position is not affected.

The Ptininae in our fauna have never received monographic treatment, partly, it is presumed, because of the small number of species involved, but still more on account of the large proportion of monotypic genera—eight out of the nine named in our lists being represented by single species.

The Anobiidæ were made the subject of an investigation by LeConte in 1865 (Proc. Acad. Sci. Phila., p. 224), and the arrangement of genera proposed by him at that time appears to me to be on the whole distinctly more natural than any other that has been ad-

vanced either by earlier or later authors. The number of species known to us has greatly increased in the forty years that have elapsed since this memoir was published, but the sequence of genera adopted in the present essay does not differ very greatly from that suggested by our most philosophical Coleopterist.

The preparation of the present paper was begun nearly two years ago, since which time it has absorbed the major portion of the time which the writer could spare for Entomological work. The task has not been a light one nor are the results in all respects what the author could wish, but whatever the degree of success attained it is in no small part due to the prompt and generous responses that have almost invariably been made to all appeals for information or specimens. It is a pleasure to acknowledge the assistance rendered in this way by numerous friends and correspondents, more especially to Messrs. Blanchard, Bowditch and Hayward of Massachusetts; Schaeffer, Beyer and Palm of New York; Liebeck and Boerner of Philadelphia; Schwarz, Chittenden and Barber of Washington; Dury of Cincinnati; Wickham of Iowa; Knaus of Kansas, and Fuchs, Van Dyke, Fenyès, Blaisdell and Hopping of California. Nearly all of whom sent me the greater part of their material for study.

To Mr. Blanchard I am especially indebted for numerous valuable descriptive and critical notes upon the LeConte material, as well as a continued helpful interest in the progress of the work.

My heartiest thanks are due to Mr. Henshaw of the Museum of Comparative Zoology at Cambridge, Mass., for the privilege of making a subsequent personal examination of the LeConte types; to Dr. Howard and Mr. Schwarz of the National Museum, Dr. Skinner of the Philadelphia Academy and to Dr. Holland of the Carnegie Museum at Pittsburg—now containing the Ulke and Hamilton collections—for affording me every facility for studying the collections under their charge.

Through the kind offices of Mr. Henry Wenzel and Dr. Skinner the entire Horn collection, excepting the few types and uniques, has been sent to me for study, and Mr. Fuchs has rendered the same service with the collection of the California Academy of Sciences. Of the native material studied, the Hubbard and Schwarz collection is, as usual, by far the richest in both specimens and species, and, as on previous occasions, this wealth of material has been turned over



to me unconditionally by Mr. Schwarz, to whom I am indebted for this privilege and, indeed, for more favors than I can well enumerate.

Finally, to the Rev. Mr. Gorham of Southampton, England; M. Pic of Digoin, France; Mr. Edward Reitter of Paskau, Austria, and to Messrs. Ganglbauer and Holdhaus of the Royal Museum of Vienna, I am very grateful for the loan or gift of many of the European species, as well as others from Central America and Mexico, including in some cases even unique types.

In drawing up the following descriptions the author has not attempted to make them anatomically exhaustive, but merely to set forth those characters which experience thus far shows to be most useful for comparative study. It does not necessarily follow that these characters will prove equally significant in a wider field, though the personal examination of many European species, and all but two of the recognized European genera, convinces the author that with very few exceptions the scheme followed applies equally well to the Nearartic and Palearctic faunas at least.

#### PTININÆ.

Mentum triangular, usually acuminate in front and foveate or impressed at base. Palpi short, labial 3-jointed, maxillary 4-jointed, similar in form; basal joint slender, curved; second and third shorter and stouter; terminal joint largest, oval, pointed. Labrum transverse, truncate or feebly emarginate. Antennæ, inserted on the front and more or less approximate at base, rather long and moderately stout, filiform or feebly serrate, 11 jointed (9-jointed in *Ptinus*), the joints not very variable in length. Eyes variable. Prothorax small, without side margin, usually constricted behind, the disk anteriorly frequently gibbous or tuberculate. Elytra much wider than the prothorax, usually oval or globose, but more elongate, with sides nearly parallel in one or both sexes of many species of *Ptinus*. Prosternum very short, separating the prominent coxæ, the coxal cavities widely open behind. Mesosternum small, subtriangular, the side pieces not reaching the coxæ, which are subglobose, only moderately prominent and distinctly separated. Metasternum moderate or long, side pieces narrow; hind coxæ more widely, sometimes very widely separated. Abdomen with five ven-

tral segments (four in *Gibbium*); the second, third and fifth longer than the first and fourth; the fourth sometimes very short. Legs long, not contractile; trochanters in the axis of the thighs, very long in *Gibbium*; thighs more or less clavate; tibiae slender, with two small or minute terminal spurs. Tarsi 5 jointed; joints 1-4 decreasing in length; fifth longer, but usually shorter than the first; claws small, slender, simple, strongly divergent or divaricate.

I have removed *Hedobia* and *Euerada* from this subfamily and placed them at the head of the Anobiinæ. There is, I think, no doubt that they fall naturally between the Ptininae and the typical Anobiinæ, but the points of divergence from the former are far more numerous than the points of contact, and are generally in the direction of the latter, which on account of its greater heterogeneity is less disturbed by their reception. In the Classification, by Le-Conte and Horn, the antennæ of *Hedobia* and *Euerada* are said to be inserted on the front. It would be more accurate to say that the point of insertion is at the antero-interior margin of the eye (slightly more frontal in *Euerada*) and really differs very little from its position in the Anobiinæ; the apparent difference being largely due to the fact that the front is not margined above the base of the antennæ.

In the European genus *Dryophilus*, belonging unquestionably to the Anobiinæ, the antennæ are still more frontal in position, from which it will be seen that too much stress should not be laid upon this aberrancy.

The antennæ in *Hedobia* are it is true similar to those of *Ptinus*, and the prothorax in both this genus and *Euerada* is unmargined at sides; but on the other hand the antennæ in *Euerada* approach rather *Xyletinus* and *Vrilletta* of the Anobiinæ, and in *Gastrallus* of the latter subfamily the thorax is almost without side margin, and in one species of *Hadrobregmus* is completely so. Furthermore, both *Hedobia* and *Euerada* differ conspicuously from all our genera of Ptininae in palpal formation; in the apically bidentate mandibles; in the absence of a prosternal process separating the front coxæ; in the subequal ventral segments, the fourth being scarcely shorter than the third, and the first not narrowed by the posterior coxæ; in their non clavate femora; and finally, in the stout tarsi, the terminal joint being broadly triangular with perfectly divaricate claws.

- I. Elytra widely embracing the abdomen at sides; the ventral surface about one-third the width of the elytra, the latter polished and impunctate ..... **GIBBINI**.  
 Entirely glabrous above, eyes subfrontal, ventral segments four, hind trochanter two-thirds as long as the femur..... **Gibbium**.  
 Head and thorax densely squamose, eyes lateral, ventral segments five, hind trochanter scarcely one-third as long as the femur.. **Mezium**.
- II. Elytra much less widely embracing the abdomen, the ventral segments nearly equal in width to the elytra (except *Sphaericus*), elytra always punctate and pubescent..... **PTININI**.  
 Elytra confusedly punctate, ventral surface but little more than half as wide as the elytra..... **Sphaericus**.  
 Elytra punctate-striate, ventral surface nearly equal in width to the elytra. Antennæ 9-jointed, size minute..... **Ptinus**.  
 Antennæ 11-jointed.  
 Eyes relatively very small, nearly semi-circular, their lower segment with the lenses imperfectly developed and clothed with scales; scutellum very small or completely invisible; elytra globose, similar in the sexes; metasternum scarcely as long as the second ventral segment; posterior trochanters reaching the margin of the elytra when directed outward.  
 Prothorax narrowed but not constricted behind... **Trigonogenius**.  
 Prothorax constricted behind ..... **Niptus**.  
 Eyes rounded, not squamose inferiorly, scutellum distinct, trochanters not reaching the elytral margin.  
 Eyes rather small in both sexes; prothorax feebly constricted close to the base; elytra similar in the sexes; metasternum subequal in length to the second ventral segment; first and second ventral sutures nearly obliterated at middle ..... **Niptinus**.  
 Eyes moderately large, often very large in the male; prothorax strongly constricted posteriorly; elytra parallel or nearly so in the male, oval in the female of the subgenus *Ptinus*; metasternum much longer than the second ventral segment in the male; ventral sutures distinctly impressed..... **Ptinus**.

## GIBBINI.

The two genera constituting this tribe are at once distinguishable from all others by the greatly contracted ventral surface; the inflated polished and impunctate elytra and the densely hairy or scaly under surface and appendages. On account of the very short sterna the legs are placed close together, especially so in *Gibbium*, in which the acetabula are almost perfectly contiguous from front to back. The reduction of the number of ventral segments in *Gibbium* appears to result from the coalescence of the first and second.

**GIBBIUM** Scopoli.

Mentum elongate-triangular, trophi substantially as defined of the subfamily, the labrum emarginate. Head oblong-oval, striate laterally. Eyes very small, elliptical, flat, subfrontal in position. Antennæ inserted before the eyes; not quite as long as the body; rather stout, subfiliform, slightly attenuate; joints 1-10 not very unequal, the eleventh acuminate and longer than the two preceding united. Prothorax very short, conical, angulate at base, the sides straight, continuing the curve of the elytra. Scutellum invisible. Elytra connate, strongly inflated, widely embracing the sides of the body and diminishing the width of the ventral surface to scarcely one-third that of the elytra.

Prosternum excessively short, the coxæ contiguous with its anterior margin; intercoxal process moderately separating the coxæ, not attaining their summits. Middle coxæ rather narrowly, hind coxæ small and widely separated; the metasternum truncate, without intercoxal process of the first ventral segment. Abdomen with four ventral segments, segments 1-3 slightly decreasing in length; fourth nearly as long as the first three united. Trochanters very long, the posterior ones two-thirds as long as the femur; tarsi somewhat compressed laterally, joints 1-4 decreasing in length; fifth longer, but shorter than the first; claws small, divergent.

The upper surface is glabrous and impunctate throughout; the under surface, legs and antennæ densely clothed with short coarse yellowish hair, which is longer along the interior margin of the tibiæ and forms a dense fringe on their outer edge. Our only species is the cosmopolitan :—

**G. psylloides** Czemp.

This species needs no further description than that given in the generic diagnosis above. In the few specimens examined the metasternum is tuberculate at middle; I cannot say whether this is a sexual character or not. This very singular insect is said to live in houses, etc., where it breeds in all sorts of dried animal substances. Mr. Fuchs writes me that he has taken it not infrequently in San Francisco, crawling upon the walls of his kitchen, especially in November.

The specimens before me are from Virginia, Tennessee, Georgia, Alabama, Louisiana, California (San Francisco) and Lower California (San Jose del Cabo).

**MEZIUM** Curtis.

Agrees nearly with *Gibbium*, except as follows: Elytra more compressed laterally. Eyes equally small and much more distant. Head, prothorax and basal margin of the elytra extremely densely clothed with pale yellow scales and squamiform hairs; the prothorax sulcate and tuberculate on the disk, squarely truncate behind. Lower surface, legs and antennæ clothed with a dense crust of appressed scales, with scattered erect or suberect elongate scales. Prosternal process reaching the summits of the coxæ; metasternum broadly emarginate behind; ventral segments fine, first exceeding short at sides, longer at middle, 2-4 very short, last segment equal in length to all the preceding united. Last antennal joint but little longer than the tenth, oval, pointed.

**M. americanum** Lap.

Our only species in the genus, and too well known to need further description. The elytra in very fresh specimens are sparsely clothed with erect bristles, which are soon lost. Its habits are similar to those of *Gibbium*.

This species is widely distributed in the eastern United States, more especially at the south. I have seen it from New York City, Georgia, Florida, Louisiana, Texas and California (San Francisco). It is reported also from Cape Verd, Canaries, Madeira, Greece, New Caledonia, Chili and Peru. The single California specimen was submitted by Mr. Fuchs, who takes it in his house, but much more rarely than he does *Gibbium psylloides*. He suspects that both species make their way into his rooms from a drug store beneath.

**PTININI.**

The genera which make up this tribe are on the whole not very strongly differentiated, but I can see no good reason for attempting a reduction of the number considered as valid—in fact, admitting their validity—consistency seems to require the addition of one more—*Niptinus*—to those already described. With the exception of *Pitnus*, which does not fit very well in any linear arrangement, the sequence of genera is fairly natural.

Beginning with *Spharicus*, in which the ventral surface is relatively narrow, suggesting the Gibbiini, the body strongly globose, eyes small in both sexes, the prothorax not constricted, the legs

short and stout, there is a progressive change to the parallel form of body in both sexes, wide ventral surface, large eyes, strongly constricted prothorax and longer, more slender legs of many species of *Ptinus*.

**SPILERICUS** Wollaston.

Mentum elongate-triangular; labrum subtruncate in front; eyes small. Antennæ scarcely more than half as long as the body, inserted between the eyes, from which they are as distant as from each other; joints 1-9 gradually decreasing in size, the intermediate ones submoniliform; last joint wider, oval, and as long as the ninth and tenth united. Prothorax not constricted at base. Scutellum invisible. Elytra globose, not punctured in rows. Anterior coxæ moderately separated, the intercoxal process not reaching the summits of the coxæ; middle coxæ slightly more distant than their own diameters; hind coxæ small, very widely separated, contiguous with side margin of elytra. Metasternum very short, scarcely equal in length to the second ventral segment. Ventral surface rather more than half as wide as the elytra; first segment short, second and third equal and a little longer, fourth scarcely half as long as the third, fifth subequal to the third and fourth united. Legs rather short and stout; tarsi short, joints 1-4 decreasing as usual, last joint narrower and as long as the two preceding together; claws divaricate.

**S. gibboides** Boield.—Stout, brown, opaque; densely clothed above with appressed scales varying in color from yellowish to pale brown, and with sparse intermixed scale-like hairs which are also closely recumbent and very inconspicuous. In most examples the scales are paler in a fairly well defined posterior elytral fascia, and narrowly along the median line of the prothorax. Prothorax as wide as long, base and apex subequal, sides feebly arcuate, widest at middle, disk without grooves or callosities, closely coarsely punctate, the sculpture concealed by the scales. Elytra globose-oval, surface dull, not distinctly punctate. Beneath finely sparsely pubescent; metasternum closely very coarsely punctate; ventral segments less coarsely punctured, the punctures becoming finer posteriorly. Length 1.8-2.2 mm.

This species, which is somewhat widely dispersed in the Mediterranean region of Europe and northern Africa, has been found in this country only at San Francisco, California, where it has made itself obnoxiously conspicuous as an herbarium pest in the California Academy of Sciences. Mr. Fuchs also writes me of finding a quantity of them in a can of red pepper—"more beetles than pepper." He also states that they on one occasion devoured a box full of Coleoptera which had not been looked to for a considerable time. The beetles are to be found at all seasons of the year.

**PITNUS** Gorham.

Mouth parts substantially as in neighboring genera; eyes small, truncate beneath. Antennæ 9-jointed; first joint thickest, oval; 2-8 narrower and gradually shorter, the outer ones nearly as wide as long; ninth joint obovate, equal to the two preceding united, and nearly as wide as the first. Prothorax without distinct ante-basal constriction. Scutellum wanting. Elytra ventricose, punctate striate. Front and middle coxæ distinctly separated; hind coxæ very distant, the trochanters reaching the elytral margin. Metasternum subequal in length to the second ventral segment, broadly roundly emarginate behind. Ventral segments 1-3 subequal in length at the middle, the first shorter at sides; fourth very short, arcuate, embracing the fifth at sides, the latter cordate and a little longer than the third. Legs moderate in length, rather slender, thighs feebly clavate. Tarsi not laterally compressed, fifth joint subinflated, slightly wider than the fourth, and inserted at its apex; claws divaricate.

The single and singular species upon which this genus is founded is remarkable as being the smallest of the family. The antennal structure is unique.

**P. pygmaeus** Gorb.—Black; head and prothorax alutaceous, dull; elytra feebly shining. Front rather narrow, but not carinate between the antennal foveæ; antennæ at base nearer to the eyes than to each other. Prothorax as wide as long, sides parallel and broadly arcuate, basal constriction feeble and consisting of a marginal impression which is better defined at sides. Both the head and prothorax are rather coarsely but not closely punctured and with scattered short pale recumbent hairs. Elytra oblong-elliptical, twice as wide as the prothorax and about two and one-half times as long; punctate-striate, the punctures coarse and closely placed, and each bearing at its anterior margin a short, stout, recurved hair, which lies across the puncture; interspaces scarcely as wide as the strial punctures, impunctate and glabrous. Beneath glabrous and almost impunctate. Length 1 mm.

Described from Guatemala. The specimens before me were taken by Mr. Beyer in the cape region of Lower California.

**TRIGONOGENIUS** Solier.

Mentum nearly as wide as long, carinate and subacuminate in front, feebly impressed behind; palpi as usual; labrum emarginate. Eyes small, rounded, a broad segment beneath clothed with scales making them appear truncate just below the middle. Antennæ slightly longer than half the body, their point of insertion nearer to



the eyes than to each other, front flat between them; first joint stout, longer than wide, 2-10 narrower and of equal width; second half the length of the first; third nearly as long as the first and equal to the fourth and fifth united; 4-10 subequal and slightly longer than wide; eleventh a little wider than the preceding and as long as the ninth and tenth united, oval, acuminate. Prothorax a little wider than long, widest at middle, sides quite strongly rounded, not constricted at base, broadly feebly sulcate at middle, and impressed each side near the base. Scutellum invisible. Elytra globose, a little depressed, nearly twice as wide as the prothorax. Anterior coxæ rather narrowly separated; the middle coxæ more widely separated, but distant less than their own diameter; hind coxæ widely separated, the trochanters barely reaching the elytral margin when directed outward. Metasternum scarcely as long at middle as the second ventral segment, emarginate behind. Second and third ventral segments equal, and a little longer than the first at the middle, the post coxal width of the latter only about half its median or lateral width; fourth very short, fifth fully as long as the second. Thighs rather stout and moderately clavate; front tibiæ short, almost triangular; hind tibiæ slender; tarsi about three fourths the length of the tibiæ, slender, fourth joint not wider; claws divergent. Body densely clothed throughout with scales intermixed with erect bristles.

**T. globulum** Sol.—Robust, brown, densely clothed above and beneath with elongate pale yellowish brown scales, marmorate with darker brown on the elytra, and with a small elongate blackish brown spot on each side of the suture at base. On the prothorax the scales are replaced by an exceedingly dense mat of interlacing hairs. The pronotum appears to be broadly longitudinally sulcate at middle and impressed laterally at base, but these effects are almost entirely due to variations in the length of the vestiture. The surface of the pronotum is rather closely granulose, that of the elytra finely punctate and with rows of larger punctures which are, however, quite concealed by the scaly covering. Each interspace of the elytra bears a row of short erect bristles, and on alternate interspaces these short bristles alternate with longer ones; there are also some longer curved hairs at the humeri, and at the front and sides of the prothorax. Length 2.5 mm.

This insect is not rare at and near San Francisco, where it is found on the ground under rubbish, but does not occur in houses. I have seen examples from Oregon, and also a single specimen found on a dead cormorant at Pasadena, California, by Mr. F. S. Daggett.

Specimens of this species received many years ago from San Fran-

cisco by Mr. Ulke and given to LeConte were described by him in 1866 as *faretus*, and this name has long stood on our lists. It is to Mr. Schwarz, I think, that we owe the discovery of the identity of *faretus* with the *globulum* of Solier, previously described from Chili; and in the National Museum material there is a Chilian example which completely justifies this conclusion.

### **NIPTUS** Boieldieu.

The structural differences between this and the preceding genus are very few indeed, being confined practically to the difference in the form of the prothorax, which is distinctly constricted behind in *Niptus*, but not at all so in *Trigonogenius*. *Niptus* is represented by ten species in the European fauna, varying so greatly among themselves in minor points of structure as to cause their separation into several subgenera. In our own fauna only a single species has been known until the recent discovery of the European *hololeucus* at Montreal.

1. **N. ventriculus** Lec.—Brown, moderately shining, head and prothorax subequal in width and scarcely half as wide as the elytra; the latter globose. Head, antennae, legs and lower surface clothed densely with small pale yellow scales and scattered longer bristle-like hairs of the same color. Antennae half as long as the body, first joint stouter, joints 2-10 subequal, longer than wide; last joint as long as the two preceding and slightly wider, oval, pointed. Front flat between the antennal foveae. Prothorax nearly as wide as long, constricted behind, disk bituberculate each side in a transverse line, surface graunlose and clothed not very densely with coarse yellowish hair. Elytra with unimpressed rows of rounded perforate punctures, each interspace with a single series of recurved setae, the alternate ones with longer erect hairs. The punctures are not setigerous, but there is a recurved bristle similar to those of the interspaces close to the front margin of each one. Front coxae distinctly though rather narrowly separated; middle coxae a little less close; hind coxae very widely distant, the trochanters passing the lateral margin. Metasternum at middle subequal in length to the second ventral segment. Ventral sutures straight, the fourth segment very short; the fifth longest, parabolically rounded at apex. Thighs very strongly clavate; tibiae and tarsi moderately slender. Length 2.3-3 mm.

This insect ranges from Texas to Southern California. The type was taken at Santa Fé, New Mexico. It has been found by Wickham at Marfa, Texas, by Schwarz at Winslow, Arizona, where also Mr. Wickham records the finding of a colony under a log, and by Coquillett in Los Angeles County, Cal. It occurs also in Mexico.

2. **N. hololeucus** Fald.—Reddish brown, densely clothed throughout with small appressed fulvous squamiform hairs and suberect bristles of the same color. The size is larger than in *ventriculus*, the antennæ more slender, the tenth joint about two and one-half times as long as wide, eleventh longer but not equal to the two preceding united. Prothorax less than half as wide as the elytra, not tuberculate on the disk. Elytra with perfectly unimpressed rows of very fine distant punctures, accompanied by rather short suberect setæ; each interspace with a line of similar but rather longer setæ. First and second ventral sutures bent forward at middle; legs longer, the thighs more slender at base than in *ventriculus*.

This common European species has been found in large numbers in a house in Montreal, Canada, the identification having been made at Washington from specimens sent to the National Museum by Dr. Fletcher.

### **NIPTINUS** n. gen.

It has been thought best to set apart as a distinct genus a small number of species which partake of the characters of both *Niptus* and *Pinus*, though much more closely allied to the latter. Approach is made to *Niptus* in the relatively short metasternum, which is, however, not quite so short as in that genus, and in the short stout form of body, which is not sexually modified. The eyes are relatively smaller than in *Pinus* (except perhaps in the apterous females of that genus), but are of similar shape and not encroached upon beneath by scales as in *Niptus*. In the well developed scutellum, character of vestiture, sculpture of the upper surface and form of legs and antennæ there is a close agreement with *Pinus*; but the complete obliteration at middle, of the first and second ventral sutures, and the dense sculpture of the ventral surface, are characters quite foreign to the latter genus so far as known to me.

It is quite certain that *Trigonogenius niveus* and *T. arcuatus* of Gorham, from Central America and Panama, should be referred to *Niptinus*; indeed, the former resembles very closely *unilineatus* Pic. The first species described below is to be regarded as the type of the genus.

1. **N. ovipennis** n. sp.—Piceous, shining, legs and antennæ rufous. Head finely granulose, clothed with very short white recumbent hairs; labrum strongly transverse, trapezoidal, with yellowish marginal cilia. Antennal foveæ narrowly separated; antennæ about three-fourths as long as the body; first joint stout, oval; 2-10 similar, obconic, about twice as long as wide, just visibly increasing in length toward the apex; last joint oval, one-half longer than the tenth, but of equal width. Prothorax a little longer than wide; sides feebly arcuate, basal constriction evident but not strong; surface closely granulose, disk not tubercu-

late, with short blackish suberect hairs, and a narrow median white vitta. Elytra one-half longer than wide and twice as wide as the prothorax, oval, punctate striate, each interspace with a series of fine erect fuscous hairs about equal in length to the width of the first two elytral interspaces; base thinly clothed with similar ochreous hairs, each elytron with an apical, two post median and a subbasal patch of dense appressed white hair. Metasternum and ventral surface densely punctate; pubescence beneath rather dense, white on the prothoracic flanks and parapleuræ, grayish on the abdomen. Fourth ventral segment two-thirds as long as the third, fifth segment but slightly longer than the fourth. Legs slender, the thighs distinctly but not strongly clavate; fourth tarsal joint a little dilated, slightly emarginate at apex; fifth joint inserted upon the upper face of the fourth, narrow, cylindrical; claws small, divaricate. Length 2.3-2.6 mm.

Described from five examples collected by Mr. Soltan at San Antonio, Texas, in June, and now in the National Museum collection. The subbasal spot or spots of white hair are easily removed by abrasion and I do not feel sure of their exact form. The maculation is of the same general character as in *unilineatus*, and this fact, together with its larger size and oval elytra, led me at first sight to suspect it might be the female of that species, as did also M. Pic, to whom I sent a specimen for examination. This is not the case, however, as I have an undoubted female of *unilineatus* before me; moreover, the other differences are evidently specific rather than sexual in nature.

2. **N. unilineatus** Pic.—Very similar to *oripennis*, except as follows: the color is entirely black, except the tibiæ and tarsi, which are brownish red. Elytra scarcely twice as wide as the prothorax, sides parallel for two-thirds their length; humeral angles right, narrowly rounded. Antennæ a little stouter, the pubescence of the first eight joints largely whitish, that of the last three blackish in color. Prothorax more sparsely granulate, the granules well separated, the surface between them shining. Elytra without ochreous hair at base, the subbasal fascia of white hair well developed, straight at sides, posteriorly angulate on the disk and attaining the suture close to the scutellum. As in *oripennis* the pubescence of the legs is white exteriorly, but yellowish or grayish interiorly. Length 2-2.4 mm.

Brownsville, Texas. Specimens collected by and received from Mr. Schaeffer. Others are in the National Museum collection. The identification of this species is due to M. Pic, to whom I sent an example for examination. He writes that the Brownsville specimens differ slightly from his type, which was described from an unknown locality in Mexico, but that the differences are too small to be considered specific.

**PTINUS** Linn.

Mentum triangular; mandibles robust, simple at tip, but with a small internal tooth near the middle. First joint of maxillary palpi very slender and strongly arcuate, intermediate joints short, subtriangular, terminal joint longer, oval, acuminate; labial palpi similarly formed. Labrum transverse, rounded and ciliate in front; epistoma triangular, a little emarginate. Eyes rounded, moderate or large, frequently distinctly larger and more prominent in the male. Antennæ approximate at base, filiform, first joint robust, second smallest, joints 3-11 elongate, subequal or slightly increasing in length, the individual joints either cylindrical or gradually wider from base to apex. Prothorax strongly constricted posteriorly, disk usually granulate and frequently tuberculate. Scutellum distinct, triangular. Elytra oblong elongate in both sexes of subgenus *Gyuopterus*; elongate subparallel in the male and oval in the female of subgenus *Ptinus*; punctate striate, variously clothed with recumbent hairs or scales and erect bristles. Front coxæ separated by a narrow prosternal lamina; middle coxæ more distinctly separated; hind coxæ not very distant, the trochanters falling far short of reaching the elytral margin. Metasternum variable in length, usually much longer than the second ventral segment, but relatively short in those females with oval elytra. Ventral segments 1-3 subequal in length at the middle, the first much shorter behind the coxæ; fourth nearly as long as the fifth in *Gynopterus*, but much shorter in *Ptinus*. Legs long and slender; thighs quite strongly clavate; tarsi somewhat compressed laterally, first joint equal to the two or three following; fourth narrow, not bilobed in any of our species; fifth slender subequal to the two preceding; claws slender, simple, strongly divergent.

The number of species—twenty-seven—treated in the following pages is a very substantial increase over the six that have stood on our lists for many years; yet there are doubtless others awaiting discovery, though it is not likely that our fauna will prove to be as rich as the European, in which over fifty species are recorded. As indicated above, only two of the somewhat numerous Palearctic subgenera are represented with us. Of these *Ptinus* embraces those species in which there is a marked sexual difference in the form of the body, and the fourth ventral segment is relatively short; the rest of our species may, I think, be referred to *Gyuopterus*, in which the

sexes are nearly alike in form, and the fourth ventral segment much longer. In none of our species is the fourth tarsal joint bilobed, as it is said to be in some European species, nor does this structure obtain with us in any of our genera of this tribe, though feebly approached in *Niptinus*.

In an arrangement of species, the subgenus *Ptinus* should precede *Gynopterus*, the short fourth ventral segment, the oval elytra in the female, with the accompanying short metasternum, and the habits of a number of the species allying them naturally with the preceding genera. In *Ptinus* there is great uniformity in most details of structure, but good characters exist in variations of bodily form or vestiture, which enable the species to be separated without much difficulty when both sexes are at hand. In *Gynopterus*, as represented with us, there is less uniformity among the species as a whole, but there is a central homogeneous group, represented by *4 maculatus* and *interruptus*, which is diffused throughout our territory from the Atlantic to the Pacific, and extends into Mexico and Central America, and which appears to be peculiar to this continent; at least I have seen no European analogue. Nearly all the difficulties encountered in the study of our species center in this group, in which the tendency to form local races, even within the same faunal area, renders the determination of specific limits a matter of great difficulty. A careful study of the material at hand enables me to define nine species, divisible into two unequal subgroups, the first containing *4 maculatus* and *prolixus* distinguished by the very elongate male antennæ with filiform joints; the second containing *hystrix*, *eximius*, *texanus*, *interruptus*, *concurrrens*, *fallax* and *vegrandis*, in which the antennæ in both sexes are subserrate. Throughout the genus there are more or less pronounced sexual differences in the size of the eyes and length of the antennæ, and in the true *Ptinus* we may add form of body and sometimes vestiture. In *Gynopterus*, with the exception of a small apical ventral tubercle in the males of certain species of the *interruptus* group, I have observed no secondary sexual characters other than the universal ones above mentioned. The primary sexual characters are so far as studied practically identical within the limits of each subgenus, but differ so conspicuously from each other as to suggest their separation as distinct genera.

In *Ptinus* the side pieces of the male genitalia are semimembran-

ous, nearly straight, somewhat contorted, gradually tapering to tip, and closely ciliated on their external margin; the copulatory spicule laterally compressed, curved and more obtusely pointed. In *Gynopterus* the lateral pieces are corneous, flattened and arcuate, as viewed from above, widest just before the tip, which is finely ciliate; the copulatory spicule vertically compressed, straight, slender and finely aciculate.

1. Elytra dissimilar in form in the sexes; elongate, subparallel in the male; oval, more or less ventricose in the female; fourth ventral segment short; female apterous ..... Subgenus **PITINUS**.  
 Setæ of stria punctures well developed, usually more or less bristling ..... 2.  
 Setæ of stria punctures minute and contained entirely within the punctures ..... 5.
2. Setæ of elytral interspaces equal or subequal in length ..... 3.  
 Alternate elytral interspaces with longer erect hairs ..... 4. **villiger**.
3. Humeri prominent, sides of elytra nearly straight or even a little sinuate toward the base ..... 4.  
 Humeri small, sides of elytra slightly arcuate ..... 3. **bicinctus**.
4. Elytral setæ longer, subbasal and subapical spots of recumbent scales wanting in the male, represented in the female by coarse appressed hairs which are present only in the humeral region; surface of head polished.  
 1. **brunneus**.  
 Elytral setæ shorter, subbasal and subapical patches of pale scales conspicuous, especially in the female; head alutaceous ..... 2. **fur**.
5. All the elytral interspaces setiferous ..... 6.  
 Interspaces 2-4-6 (at least in the female) nonsetiferous, setæ short and equal in length throughout ..... 5. **alternatus**.
6. Eyes very large, elytral setæ (♂) very short and much inclined, the recumbent vestiture squamiform ..... 6. **cælebs**.  
 Eyes smaller, elytral setæ longer and more erect, recumbent vestiture more hair like ..... 7.
7. Recumbent hairs relatively dense and more uniformly distributed, fulvous or fulvocinereous in color ..... 8.  
 Recumbent hairs less uniformly distributed, largely condensed in subbasal and subapical transverse spots, especially in the female, color white or nearly so ..... 9.
8. Bristles of elytral interspaces erect and not recurved ..... 7. **verticalis**.  
 Bristles of elytral interspaces inclined and recurved ..... 8. **gandolphei**.
9. Elytral setæ (♀) unusually long (Southern California) ..... 9. **agnatus**.  
 Elytral setæ (♀) much shorter (Middle California, Oregon) ..... 10. **cognatus**.
11. Elytra similar in form in the sexes, oblong, more or less elongate; fourth ventral segment longer; both sexes winged... Subgenus **GYNOPTERUS**.  
 Longer hairs of the elytra excessively developed, nearly as long as the width of the prothorax at its narrowest part ..... 11. **longivestis**.  
 Longer hairs of the elytra much shorter than the width of the prothorax at its narrowest part ..... 2.



2. Setæ of the stria punctures minute, recumbent and lying entirely within the punctures .....12. **californicus**.  
Setæ of the stria punctures much longer and distinctly bristling .....3.
3. Elytra with pale recumbent hairs in addition to the erect setæ.....5.  
Elytra without recumbent hairs, prevailing color black.....4.
4. Prothoracic constriction smooth and polished, elytral punctures not stellate, oblique at base.....13. **strangulatus**.  
Prothoracic constriction granulate like the rest of the surface, elytral punctures stellate, not oblique at base; head, prothorax, and sometimes the base of the elytra rufous .....14. **falli**.
5. Disk of prothorax strongly elevated and compressed .....16. **tumidus**.  
Disk of prothorax normally convex .....6.
6. Color throughout nearly uniformly testaceous or brown .....15.  
Black, the humeri and apex of the elytra bright rufous; posthumeral and posterior fascia of white recumbent hairs conspicuous; form rather short and stout.....15. **bimaculatus**.  
Rufous, the elytra with a broad black or piceous median fascia which is interrupted at the suture; base, suture and apex usually conspicuously pale, but sometimes more or less completely suffused with the darker color .....7.
7. Vestiture very long, elytral punctures coarse, the interspaces relatively narrow, but little if any wider than the punctures.....19. **hystrix**.  
Vestiture shorter, interspaces of elytra at middle of disk usually nearly or quite twice as wide as the punctures.....8.
8. Oblique discal dash of pale hairs limited to a spot on the third interspace; color nearly piceous throughout, the base and apex of the elytra sometimes obscurely rufescent; size large.....20. **eximius**.  
Oblique median dash of pale hairs extending onto the fourth interspace, base, apex and suture of the elytra distinctly rufous, except frequently in *vegrandis*.....9.
9. Form moderately elongate, the antennæ of the male not or scarcely as long as the body, feebly serrate, the joints elongate-triangular, the tenth from two to three times as long as wide .....11.  
Form very elongate in the male, the antennæ in this sex fully as long as the body, the joints filiform, the tenth fully four times as long as wide .....10.
10. Prothorax distinctly tumid on the median line just before the constriction.  
17. **prolixus**.  
Prothorax not distinctly tumid.....18. **quadrinaculatus**.
11. Eyes of male very large and prominent, separated on the front by a distance which is subequal to their vertical diameter.....12.  
Eyes of male relatively smaller and separated on the front by a distance which distinctly exceeds their vertical diameter.....13.
12. Last ventral of male with the apical pubescent tubercle indistinct or feebly developed (Texas).....21. **texasus**.  
Last ventral of male with well defined tuft of hairs surmounting a feeble apical elevation (California).....22. **interruptus**.
13. Last ventral of male with well developed apical tubercle; stria punctures coarser (Illinois, Arkansas).....23. **concurrens**.

- Last ventral of male without distinct apical tubercle; stria punctures finer .....14.
14. Size larger ( $2\frac{3}{4}$ – $3\frac{1}{2}$  mm.), eyes of male larger.....24. **fallax**.  
 Size smaller ( $1\frac{3}{4}$ – $2\frac{1}{2}$  mm.), eyes of male smaller; the color darker, the base and apex of the elytra usually scarcely paler than the central area.  
 25. **vegrandis**.
15. Pale hairs nearly evenly but not densely distributed over the basal and apical parts of the elytra; interspaces about twice the width of the stria punctures ....27. **feminalis**.  
 Pale hairs of elytra in great part confined to narrow subbasal and subapical transverse bands; interspaces of the elytra not much wider than the stria punctures.....26. **paulonotatus**.

1. **P. brunneus** Duft.—Similar to *fur*, except in the following particulars: The color is more often rufotestaceous or pale brown in both sexes, but varies to dark brown in the male and piceous brown in the female. In the male the eyes are slightly more remote on the front, being separated by a distance which evidently exceeds the united length of the first and second antennal joints; the median line of the pronotal disk not or scarcely prominent behind; elytra entirely without recumbent scales; first joint of hind tarsi distinctly shorter than the three following united. In the female the elytra are a little more broadly oval, the erect hairs not so stout and distinctly longer, being about twice as long as the width of the interspaces; there are also very slightly longer hairs on alternate interspaces; the humeral region alone is clothed rather inconspicuously with yellowish recumbent subsquamiform hairs, but these are inconstant in development or else easily lost, for many specimens show scarcely a trace of them. In both sexes the head behind the antennae is polished and quite strongly punctate, a character which separates *brunneus* from all its allies when the vestiture permits of its verification. In the male the hairs of the elytra are slightly longer and more bristling than in *fur*, but the difference is less marked than in the other sex.

Like *fur*, this is a nearly cosmopolitan species. It is known to me from the following localities in our fauna: New York, New Jersey, District of Columbia, North Carolina, Georgia, Ohio, Wisconsin, Indiana, Illinois, Missouri, Iowa, Kansas, New Mexico (Albuquerque).

2. **P. fur** Linn.—*Male*.—Color varying from rufotestaceous to pale brown; head alutaceous, not shining, vertex finely, sparsely punctulate, rather densely clothed with recumbent yellowish hair; eyes large, separated on the front by a distance distinctly greater than their own vertical diameter, and subequal to the united length of the first and second antennal joints; antennae subequal in length to the entire body; first joint stoutest, a little arcuate; second much narrower and subquadrate; third to tenth elongate, parallel, differing little in length, the third about twice as long as wide, the tenth four times as long as wide; eleventh one-fourth longer than the tenth, slightly arcuate apically, the apex pointed. Thorax a little narrower than the head across the eyes, nearly as wide as long, sides parallel in front, strongly constricted posteriorly; surface sparsely granu-

late, disk feebly tuberculate each side, median line projecting posteriorly in a cariniform process; a shallow groove behind the constriction along the posterior margin; hairs yellowish, condensed in tufts each side the median line and on the lateral tubercles. Elytra elongate, a little wider posteriorly, humeri prominent, striae slightly impressed and with coarse stellate punctures; the interspaces slightly convex and a little wider than the punctures. The vestiture consists of short, rather fine, pointed, pale yellow hairs forming a single series on each stria and interspace, those of the striae subrecumbent; those of the interspaces slightly curved and inclined at an angle of about thirty degrees; the hairs of both striae and interspaces of about equal length and slightly longer than the width of the latter. Behind the humeri and at the apical third or fourth and extending onto the declivity are scattered whitish scales, these being from two to three times as long as wide, perfectly recumbent and not sufficiently numerous to render them very conspicuous. Prosternal process very narrow, mesosternal process wider, but scarcely one-fourth the width of the coxa; metasternum equal in length to the second and third ventral segments united, polished, with sparse linear punctures, also minutely punctulate; smoother posteriorly. Ventral segments polished and punctured like the metasternum; fourth segment half as long as the fifth, scarcely more than one-third as long as the third. Legs long and slender; femora clavate in apical half; tibiae slightly bent; first joint of hind tarsi equal to the next three or very nearly so, relatively slightly shorter in the front and middle tarsi; second joint equal to the two following; last joint very slender and fully as long as the second.

*Female*.—Usually of a darker brown color than the male and differing otherwise as follows: Eyes smaller and less prominent, separated on the front by twice their vertical diameter; thoracic tufts denser, median line scarcely carinate before the constriction. Elytra elongate-oval, without humeri; interspaces flatter and a little wider; posthumeral and subapical patches of pale scales conspicuous. Legs and antennae shorter and more robust; tenth joint of latter scarcely more than twice as long as wide; first joint of tarsi but little if any longer than the next two united. Length 2.6–3.6 mm.

Widely distributed in North America, Europe and Asia, occurring more or less commonly in old buildings. The following localities are represented in the material before me: Massachusetts, New York, Pennsylvania, Canada (Ontario), Ohio, Iowa, Illinois, Michigan, Alaska (Sitka), California (Pasadena).

### 3. *P. bicinctus* Sturm.

This species is intermediate in vestiture between *fur* and *villiger*, but is closest to the latter, from which it is distinguished by the lack of longer hairs on the alternate intervals of the elytra. In series the size is seen to be still a trifle less than in *villiger*, and the narrower humeri and arcuate sides of the elytra are still more pronounced. Length 2.2–3.2 mm.

Canada (Toronto), Massachusetts (Tyngsboro—Blanchard). Females of this species have not yet been recognized. According to

Kiesenwetter they differ from the female of *fur* in the "longer elytra with longer unequal setæ, shorter, thicker antennæ and larger and differently clothed prothorax." The longer unequal elytral setæ suggest *villiger* and it is probable that females of this and *bicinctus* are very similar.

4. **P. villiger** Reit.—Very similar to *fur*, the differences being as follows: The size on the average is a trifle smaller; the eyes in the male a little smaller and the front correspondingly wider; median line of disk of pronotum not prominent at the constriction; elytra slightly narrower across the humeri, which are a little less prominent, the sides behind the humeri never faintly sinuate as in *fur*, but either straight or very slightly arcuate; stria punctures finer, the interspaces distinctly wider than the striæ; hairy vestiture in both sexes longer and more bristling, the alternate interspaces with much longer hairs alternating with the shorter ones, the long hairs twice as long as the width of the interspaces. In the male the whitish appressed scales are less diffused than in *fur*, being usually condensed both behind the humeri and posteriorly in two small spots centering on the fourth and eighth interspaces, with a few intermediately placed. In the female the whitish scales are as usual more conspicuous, and continuous from the fourth to the ninth interspaces anteriorly, but usually broken into two more or less distinct spots posteriorly. First joint of hind tarsus evidently shorter than the next three united. Length 2.5–3.5 mm.

Canada (Montreal), Connecticut, New York, Pennsylvania, Michigan (Grand Ledge and Adrian), Wisconsin (Bayfield), Nebraska (Lincoln), North Dakota, Washington State (one example referred with doubt).

5. **P. alternatus** n. sp.—Similar to *agnatus* and *cognatus*, but with much stouter antennæ and slightly more elongate elliptical elytra. The elytra are piceous, head and prothorax rufopiceous, antennæ, legs and lower surface reddish brown. Interspaces 1–3–5, etc., of the elytra bear short, equal, rather stout, somewhat inclined bristles, the remaining interspaces, except the marginal one, quite devoid of bristles, except three or four at the middle of the eighth. The anterior and posterior fasciæ are very conspicuous and consist of densely aggregated white scales, which are unusually broadly oval, being scarcely twice as long as wide. Length 2.75 mm.

This very distinct and beautiful species is represented by a single female specimen in the Hubbard and Schwarz collection, taken at Los Gatos, California.

6. **P. celebs** n. sp.—Very similar to *fur*, but differs in its distinctly larger and more prominent eyes, slightly more prominent humeri and the minute setæ of the stria punctures. The eyes are larger and the front narrower than in any other species of the subgenus; the setæ of the elytral interspaces are very short and much inclined, almost precisely as in *fur*, and the elongate whitish scales are also distributed nearly as in that species; the color is uniform brown. Length 3.5–3.65 mm.

Two males only have been seen, one from Los Gatos, California, the other from California without indication of precise locality. It is not impossible that this may be the male of *alternatus*, but I do not feel warranted in placing them together without definite knowledge of such relationship. In this and all the following species of the subgenus the setæ of the stria punctures are very minute, and it is worthy of note that all these species are peculiar to the Pacific Coast fauna. In all the species of the Atlantic district the stria setæ are well developed.

7. **P. verticalis** Lec. — *Female*.—Densely clothed with ochreous recumbent squamiform hairs. Head and prothorax of nearly equal width and about one-half the width of the elytra, the latter elongate, ventricose, each interspace with a row of short, erect, acuminate, pale bristles, and alternate interspaces with more widely spaced, longer, pale erect hairs. Length “.17 inch.”

California (Ft. Tejon).

The unique female type in the LeConte collection, taken forty-five years ago, has never been duplicated, nor has a mate as yet been found for it. *Verticalis* resembles quite closely *gandolpheii*, the only other species of the subgenus in our fauna which approaches it in density of vestiture, and I at first believed them to be identical. A recent comparison of females of the latter with the LeConte type shows that the vestiture in *gandolpheii* is somewhat less dense and less evenly disposed, and the elytral bristles are more inclined and distinctly recurved; differences which are without much doubt specific in nature.

8. **P. gandolpheii** Pic.—Form almost precisely as in *fur*. Eyes of male large and prominent, the front not wider than the combined length of the first two antennal joints; antennæ (♂) exceeding the entire length of the body; median line of pronotal disk not prominent behind. Elytra (♂) plentifully though not densely clothed throughout with coarse recumbent dirty yellow hairs, which are somewhat irregularly diffused, each interspace with a row of short inclined and recurved bristles; hairs of stria punctures very short and contained entirely within the punctures. In the female the elytral vestiture is denser, and the alternate interspaces bear long, fine, erect hairs. First joint of hind tarsus scarcely longer than the next two united. Length 3-3.5 mm.

California.

This species was described from Mariposa and appears to be quite local, and as yet rare in collections. Two examples in the collection of Mr. Fuchs are labelled as having been taken in the vicinity of San Francisco; all others seen by me were taken by Mr. Hop-

ping at Kaweah, which is not very far from the original locality. The color is brown, darker in the female, with the middle of the elytra in the male sometimes darker. The species may be at once distinguished from all others, except *verticalis*, by the relatively dense sordid yellow vestiture.

9. ***P. agnatus*** n. sp.—Form of *fur*; rufous, except the elytra, which in the male incline to piceous, with the suture paler, but in the female are entirely piceous. In the male the eyes are large and separated on the front by a distance which is scarcely equal to the combined length of the first and second antennal joints. Prothorax coarsely closely granulate, the median line not prominent before the constriction, the hairs of the disk not conspicuously dense on the lateral tubercles or on either side the median line. Punctures of elytral striæ moderate, closely placed, each bearing a minute appressed hair, the interspaces (♂) scarcely wider than the striæ, each with a row of rather fine bristles, which are about twice as long as the width of the interspaces, moderately inclined and very feebly recurved. Throughout the surface are scattered whitish appressed squamiform hairs which are condensed in a narrow oblique fascia at the apical fourth, and sometimes in a similar though ill-defined transverse subbasal one. In the female the alternate interspaces of the elytra bear exceedingly long, fine, erect hairs, these nearly or quite equalling in length the distance from the suture to the fourth stria, the shorter hairs being less than half as long. The white squamiform hairs are less widely scattered, being nearly all condensed in conspicuous anterior and posterior fasciæ, which, as usual, do not reach the suture. First joint of hind tarsi subequal to the next two united. Length 2-3 mm.

Southern California, Los Angeles and San Diego Counties.

10. ***P. cognatus*** n. sp.

Exceedingly closely allied to *agnatus* and possibly not distinct. The most conspicuous difference is in the length of the erect hairs of the elytra in the female, both the shorter and longer hairs being nearly or quite one-half longer in *agnatus* than in the present species. As already remarked, the longer hairs in *agnatus* are nearly as long as the distance from the suture to the fourth stria; in *cognatus* they would not attain the third stria. The males of the two forms are more difficult to separate than the females. In *agnatus* the antennæ are rather more slender, the tenth joint about four times as long as wide and with apex less than twice as wide as base: in *cognatus* the tenth joint is about three times as long as wide and the apex twice as wide as the base. These, it should be remarked, are the prevailing conditions, though some slight variation is perceptible. In *cognatus* the thighs appear to be infusate in fully colored specimens, but never so in *agnatus*.

All specimens seen, except one from Oregon (collected by Koebele), are from the Middle California Coast Region (San Francisco and Alameda Counties, and Los Gatos), where it appears to be as common as *agnatus* is in Southern California.

11. ***P. longivestis*** n. sp.—Brown, moderately elongate. Head densely, finely granulate, pilose; eyes not strongly convex and scarcely more prominent than the sides of the prothorax; front twice as wide as the vertical diameter of the eye; antennae four-fifths as long as the body, joints 3-10 subequal in length, about twice as long as wide, each a little widened apically; eleventh one-third longer than the tenth. Prothorax of the usual form, closely granulate and densely confusedly pilose; the hairs of unequal lengths, varying from whitish to pale brown; at the anterior margin numerous, very long, fine, posteriorly curved hairs. Elytra oblong, humeri small but distinct, sides feebly arcuate and nearly parallel in basal two-thirds; stria punctures quite coarse, the interspaces subequal in width to the striae; setae of the stria punctures straight, about twice as long as the interstria width, and inclined at an angle of  $45^{\circ}$ ; each interspace with a row of setae of equal length to those of the striae, but more erect, these alternating on alternate intervals, with excessively long, fine, erect curved hairs. Throughout the surface, except the middle portion of each elytron, are scattered subrecumbent, whitish, subsquamiform hairs, but these are mainly condensed in the humeral region and in a feebly defined interrupted transverse fascia at the apical fourth. Sculpture and vestiture beneath as usual; fourth ventral segment about half the length of the third and two-thirds as long as the fifth. Legs moderate; first joint of hind tarsus not longer than the next two united. Length  $2\frac{1}{4}$  mm.

Described from a single example, probably a female, taken at Ft. Yuma, Arizona, by Mr. Hubbard, and now in the National Museum collection.

12. ***P. californicus*** Pic.—Oblong, moderately robust, blackish brown; head, prothorax, legs and antennae dark rufous. Antennae nearly as long as the body, the outer joints about four times as long as wide in the male; shorter, stouter, the outer joints scarcely more than twice as long as wide in the female. Eyes moderate, separated on the front by about one and two-thirds times their vertical diameter in the male, a little smaller in the female, the front relatively wider. Head behind the antennae densely clothed with small whitish scales and short intermixed fulvous setae. Prothorax densely granulate, moderately constricted, tuberculate at sides of the disk, rather sparsely clothed with short inconspicuous hairs, which are much inclined, except on the lateral tubercles. Elytra parallel, stria punctures strong, intervals a little wider than the striae; setae of stria punctures minute, those of the intervals blackish, very short and almost recumbent; posthumeral and subapical transverse patches of white scales very conspicuous; scutellum densely clothed with pale hairs. Beneath clothed with recumbent, coarse, cinereous or fulvo-cinereous hair. Legs rather stout, more slender in the male. Length 4-5 mm.



Known to me from Colorado, Utah, Nevada, the Middle Sierras of California and Vancouver Island (Taylor).

Our largest species and differing from all others in the very short almost recumbent elytral setæ. The European analogue of this species is *quadrisignatus* Mén, to which indeed *californicus* is exceedingly closely allied.

13. ***P. strangulatus*** n. sp.—Oblong, moderately elongate, black, legs and antennæ rufous; in one example the humeri and a small subapical spot obscurely rufescent. Eyes moderate, separated by a little less than twice their vertical diameter. Antennæ not quite as long as the body, outer joints about two and one-half times as long as wide. Head and prothorax rather coarsely and closely granulate, the latter not tuberculate on the disk, abruptly strongly strangulated posteriorly, the bottom of the constriction smooth and impunctate, the sides overhanging, especially laterally, where they are nearly in contact. Elytra parallel, stria punctures not stellate, elongate, distinctly oblique toward the base; interspaces three times as wide as the striæ at the middle of the disk. Vestiture of the upper surface throughout consisting of short, rather fine, luteous, much inclined hairs, those of the elytral interspaces not or but slightly longer than those of the punctures. Metasternum with coarse, closely placed shallow punctures; smoother at middle and posteriorly. Length 2.3-3.3 mm.

Florida (Miami and Key Largo); collected by Mr. Beyer.

A remarkable species, possessing in its deep smooth posterior thoracic channel and oblique elytral punctures, characters which do not appear elsewhere in the genus. The sexual differences are probably small.

14. ***P. falli*** Pic.—Black; head, prothorax, sterna, first ventral segment, appendages, and rarely the base of the elytra, rufous. Vestiture fuscous on the elytra, brown or yellowish brown on the rufous parts of the body, the scutellum thickly clothed with pale hairs. Head closely granulate and sparsely, shortly pilose; eyes not very prominent; distant on the front by about twice their diameter. Antennæ scarcely as long as the body, moderately stout, the joints feebly obconical, from two to two and one-half times as long as wide. Prothorax rather sparsely granulate, feebly tuberculate at sides, and sparsely pilose. Elytra parallel, nearly twice as wide as the prothorax; interspaces a little wider than the striæ; setæ of the stria punctures scarcely longer than the width of the interspaces, much inclined; interstria setæ about twice as long and more erect; recumbent hairs or scales entirely wanting. Metasternum densely punctate in front and at sides, the punctures rather coarse and nearly circular. Length 2.3-3 mm.

District of Columbia, Ohio, Kentucky, Texas.

The color, vestiture and the punctuation of the metasternum render this species one of the most easily recognized in our fauna. It does not seem to be common.

15. **P. bimaeculatus** Melsh.—Oblong, parallel, robust; antennæ, legs and lower surface rufous; above black or piceous, the humeri and apical third or fourth of the elytra rufous. Antennæ shorter than the length of the body, second joint two-thirds the length of the third, the outer joints about twice as long as wide in the male; second joint subequal to the third, the outer ones scarcely one-half longer than wide in the female; joints obconical in both sexes. Eyes moderate, not more prominent than the sides of the prothorax; front about twice as wide as their vertical diameter in the female, a little narrower in the male. Hairs of the upper surface generally dark in color, the elytral setæ moderately stout, the longer ones of the interspaces about equal to the distance from the suture to the second stria; the stria setæ shorter and more inclined, as usual. On each elytron is a conspicuous, somewhat irregular posthumeral fascia of dense white, appressed, squamiform hairs, and a similar narrower fascia bordering the apical rufous area; there is also a small dot of white hair on the fourth interspace, close to and just behind the inner end of the anterior fascia, and another on the third interspace, half way between this and the posterior fascia. Beneath moderately pubescent, the metasternum coarsely, sparsely punctate. Legs rather short, the first joint of the hind tarsi barely equal to the next two united. Length 2-2.8 mm.

I have seen specimens from New York, Pennsylvania, Michigan (Ann Arbor), Missouri, Kansas (Salina), Florida (Crescent City). Apparently a rare species in the northern States, the larger number of specimens seen coming from Texas.

*Frontalis* Melsh. is quite surely the male of this species, and M. Pic has recently described it again under the name *rubroapicatus*. The remarkably stout form which is, however, not in the least ventricose, the peculiar coloration and the conspicuous white fasciæ at once distinguish this from all other species.

16. **P. tumidus** n. sp.—Oblong, piceous; legs and antennæ rufous. Head granulate and with fuscous hairs; eyes very large and prominent; front a little narrower than the vertical diameter of the eye. Antennæ rather slender, nearly as long as the body, at least in the male; outer joints nearly four times as long as wide, each slightly increasing in width from base to apex. Prothorax much narrower than the width across the eyes, disk strongly compressed and elevated in front, moderately strongly constricted behind, surface granulate and rather densely clothed with long erect hair, which is predominantly fuscous in color at the middle, becoming paler at sides. Elytra parallel, about twice as wide as the prothorax; stria punctures moderate, becoming finer at apex; interspaces a little wider than the striæ on the disk, each with alternating, shorter and longer erect setæ, which are scarcely at all recurved, and vary in color from fuscous to ochraceous, the darker color prevailing on the disk; setæ of stria punctures shorter and less erect. The longer hairs of the interspaces are about equal in length to the distance from the suture to the third stria, the shorter ones two-thirds as long. The discal portion of the base, the sutural region, and the lateral margin

are clothed with pale yellowish recumbent squamiform hairs; there is also a small rounded spot of dense white appressed hairs on the fourth interspace before the middle, a smaller one just behind the middle and nearer the suture, and a little posterior to this a transverse spot on intervals 5-8. Metasternum and abdomen sparsely, finely punctate; abdomen sparsely pubescent, metasternum, especially the side pieces, more thickly so. Length 2.8 mm.

Brownsville, Texas.

I have seen only two males of this pretty species. It is a somewhat aberrant member of the *interruptus* type, distinguishable at once by its strongly compresso-carinate prothorax.

17. **P. prolixus** n. sp.—Similar to *quadrimaculatus* in all respects, except the following: The eyes are even slightly larger and more prominent, the prothorax distinctly prominent at middle before the constriction, the dark area of the elytra paler and much less sharply defined. Length 3.5 mm.

Texas. Two males, one of them collected by Belfrage.

18. **P. quadrimaculatus** Melsh.—*Male*. Elongate, nearly parallel; head, thorax and lower surface rufopiceous, antennae and legs pale rufous, elytra rufous, each with a large black patch occupying the middle half, attaining the side margin but not the suture, its posterior outline transverse, its anterior margin extending obliquely forward and outward to a point just behind the humerus. Eyes very large and much more prominent than the sides of the prothorax, the front between them very little wider than their vertical diameter. Antennae subequal in length to the body, slender, the individual joints filiform, the outer ones fully four times as long as wide. Prothorax granulate, confusedly hirsute, the hairs varying in color from luteous to brown; disk not prominent at middle before the constriction. Elytra more than twice as wide as the prothorax and about four times as long; interspaces wider than the striae, each with a row of setae varying but slightly in length, the longer ones about equal to the distance from the suture to the second stria, inclined about 45 degrees; setae of stria punctures a little shorter and more inclined. The rufous areas of the elytra are clothed with recumbent, yellowish, squamiform hairs, these being condensed and paler in color along the margins of the black area, elsewhere rather sparse. Metasternum as long as the second and third ventral segments united. Legs long and slender; first joint of hind tarsus nearly as long as the three following. Length 3-3½ mm.

Massachusetts, Pennsylvania, District of Columbia.

I have examined at Cambridge what is, in all probability, Melzheimer's type. It is a male and precisely similar to a male from the District of Columbia now before me. The species seems to be singularly rare in collections, and I find in the very large material sent me for study only this single male (Nat. Mus. collection) and a female which I place with it, taken by Mr. Blanchard at Tyngsboro, Mass., more than thirty years ago, and for which he has not since found a mate. This female differs from the male described

above in being of less elongate form, in its smaller eyes, front nearly twice as wide as the vertical diameter of the eye, shorter subserrate antennæ, the outer joints scarcely more than twice as long as wide, the basal joint of hind tarsi not distinctly longer than the next two, elytral setæ longer.

19. ***P. hystrix*** n. sp.—Of the *interruptus* type, but conspicuous in this group for its exceedingly long abundant hispid vestiture. The paler parts of the elytra are more or less dark rufopiceous, and so contrast slightly with the central black area. The basal, apical and sutural regions are clothed with subrecumbent, recurved, yellowish white, squamiform hairs, these as usual being paler and denser along the margins of the central area, and on the oblique discal dash, which is here quite conspicuous. These recumbent hairs are also more noticeably scattered over the black area than usual. The eyes are moderately prominent, separated in the male by rather less than one and one-half times their vertical diameter, and are a little smaller and more distant in the female. The antennæ are of the usual form, the tenth joint a little more than twice as long as wide in the male, and about twice as long as wide in the female. The elytral interspaces are scarcely wider than the very coarse strial punctures, the interstrial setæ strongly bristling, of two lengths, the longer ones equal to the distance from the suture to the third stria, the shorter ones from one-half to two-thirds as long; the strial setæ are still shorter and more inclined. The last ventral is not tuberculate in the male. Length 2.6–2.8 mm.

Brownsville, Texas.

20. ***P. eximius*** n. sp.—This is our largest and stoutest species of the *interruptus* type. The color is usually dark throughout, the base, apex and suture of the elytra being seldom more than obscurely rufescent. The vestiture is denser than in any other species of the group, and the erect hairs are nearly as long as in *hystrix*. The eyes and antennæ vary but little in the sexes, the former being separated by fully one and one-half times their vertical diameter; the tenth antennal joint from two to two and one-half times as long as wide. Base, apex and suture of elytra quite densely and almost uniformly clothed with yellowish white recumbent hairs, the dark median area conspicuously suffused with the same; median discal dash limited to a dot on the third interspace. Strial punctures much less coarse than in *hystrix*, the interspaces distinctly wider than the striae. The anterior margin of the central black area is more transverse than usual, the basal densely pubescent area being in consequence but slightly wider at the suture than at the humeri. Last ventral segment without apical tubercle in the male. Length 3.2–3.7 mm.

Southern California (San Diego), Lower California (San José del Cabo). With the typical specimens from the above localities, I have placed others from Texas, South Carolina and Florida, which are too close to the types to warrant their separation with the very few specimens at hand.

21. **P. texanus** Pic.

The type of this species, which M. Pic has kindly sent me for examination is a female intermediate in appearance between *eximius* and *interruptus* or *concurrrens*. In its somewhat robust form and dark color it resembles *eximius*, or more strictly the eastern examples which I have referred to that species, but it is smaller, with rather shorter erect hairs, and with the short oblique discal dash extending onto the fourth interspace, I have associated under this name numerous specimens from various localities in Texas, which exhibit quite a little variation in minor details; in all these the males lack the apical ventral tubercle. Specimens from Brownsville, Texas, have the eyes excessively large, the front scarcely equal in width to their vertical diameter, and the strial punctures somewhat coarser; these possibly indicate a distinct closely allied species. Good series of both sexes from many localities must be collected before we can determine specific limits in this difficult group with any degree of certainty.

Texas, many localities; Georgia, St. Catherine's Island.

22. **P. interruptus** Lec.—Moderately elongate, parallel, reddish brown, each elytron with a large central black area extending from the side margin to the second interspace, its posterior limit transverse, its anterior outline quite strongly oblique, extending from just behind the humerus to a point on the suture about one-third from the base. Eyes strongly globose, much more prominent than the sides of the prothorax, the front between them subequal in width to their vertical diameter, or to the united lengths of the second and third antennal joints. Antennæ nearly as long as the entire body, subserrate, the tenth joint in the male three times as long as wide. Prothorax not very closely granulate, not distinctly tuberculate, strongly constricted posteriorly, confusedly hirsute with yellowish and brownish hairs, the latter predominating on the disk, the former at the sides. Elytra twice as wide as the prothorax and fully three times as long, humeri prominent, sides parallel, very slightly wider at apical third; strial punctures moderate, finer posteriorly, interspaces evidently wider than the striae, each with a row of suberect bristles varying but little in length, the longest about equaling the distance from the suture to the second stria; setae of the strial punctures shorter and more inclined; the subtriangular basal area, suture and apical third or fourth clothed sparsely with recumbent hairs, pale yellow, varying to whitish along the anterior and posterior margins of the black fascia, where they are condensed into fairly conspicuous bands; an oblique discal dash of similar hairs extending forward from the second interspace across the third and fourth, the surface beneath this dash usually of paler color like the suture. Metasternum and abdomen polished, very finely, sparsely punctulate, with scattered coarser punctures; finely, not densely pubescent. Metasternum scarcely as long as the second and third ventral segments united; the fourth segment fully two-thirds as long as the third and a little shorter than the fifth; the

fifth with a small pubescent apical tubercle in the male. Legs moderately slender, first tarsal joint subequal to the two following on all the feet. Length 2.5-3.2 mm.

California (San Francisco, Santa Cruz Mountains, Contra Costa). One example from Miami, in the Mariposa region, is referred to here with some doubt.

This species appears to have a limited range. It is very similar to *fallax*, which is much more widely diffused through the State, and is to be separated by its larger eyes and distinct apical ventral tubercle in the male.

23. **P. concurrens** n. sp.—Closely similar to *interruptus*, from which it differs in its smaller eyes ( $\text{\textcircled{f}}$ ), coarser striae punctures and the shorter antennal joints, the tenth being scarcely more than two and one-half times as long as wide. The eyes ( $\text{\textcircled{f}}$ ) are separated on the front by a distance which is nearly one and one-third times their vertical diameter, and distinctly more than the combined lengths of the second and third antennal joints. Length 2.5-2.8 mm.

Northern Illinois, Arkansas (Stromberg).

24. **P. fallax** n. sp.—Differs from *interruptus* in the smaller eyes of the male, these being separated on the front by a distance which is evidently greater (about one and one-fourth times) than their vertical diameter, and which exceeds the united length of the second and third antennal joints; and in the absence of a distinct apical ventral tubercle in the same sex. While the above differences, which are those given in the table, are the most conspicuous and reliable ones, there are some others which are evident on careful comparison. The head and prothorax seem relatively smaller in *fallax*, and I think this is not due wholly to the smaller eyes; the antennæ are a little more slender, and the inner margin of the black area is more oblique, receding from the suture anteriorly so as to leave three or even four interspaces rufous, while in *interruptus* the inner margin of the black area is more nearly parallel with the suture, seldom leaving more than two interspaces rufous in front. This narrowing of the black area anteriorly in *fallax* results in the short oblique median dash of pale hairs forming a nearly continuous line with that bordering the black area in front, while in *interruptus* the oblique dash is nearly parallel to the anterior fascia bordering the black spot. These differences are easily obscured in specimens in which the vestiture is not perfectly preserved.

The species ranges from Southern California to Oregon, both in and to the west of the Sierras. Those from the first named region are typical; the Oregon specimens are slightly different, but I cannot find good grounds for separating them.

25. **V. vegrandis** n. sp.—Of the *interruptus* type but much smaller; pale areas rarely well defined, the suture usually and the base and apex of the elytra frequently more or less completely suffused with the darker color of the central area. Eyes of male more prominent than the sides of the prothorax, but dis-



tinely smaller than in related species, the front being nearly equal in width to twice their vertical diameter, and about equal to the third and fourth antennal joints united in the male. Length  $1\frac{3}{4}$ – $2\frac{1}{4}$  mm.

Southern California (Kaweah, Pomona, Pasadena); Arizona (Hot Springs and Williams).

The smallest species of the group, and nearly always at once recognizable by its dark color. The Arizona specimens are not quite typical, but are best placed here for the present.

26. **P. paulonotatus** Pic.—Moderately elongate, parallel, uniformly reddish brown throughout, or with the median parts of the elytra slightly darker. Antennæ (♂) a little shorter than the length of the body, subserrate, tenth joint slightly less than three times as long as wide. Eyes distinctly more prominent than the sides of the prothorax, the front nearly one-half wider than their vertical diameter and very obviously wider than the combined lengths of the second and third joints of the antennæ. Head and prothorax granulate and hirsute as usual, the hairs yellowish. Elytra moderately strongly punctate-striate, the intervals a little wider than the punctures, each with a series of yellowish or brownish yellow erect hairs, not varying much in length, the longest nearly equal in length to the distance from the suture to the middle of the third interval; striae setæ somewhat shorter and more inclined; at basal and apical fourths a narrow transverse fascia of white recumbent hairs, the anterior fascia reaching nearly to the suture, the posterior one more lateral; a short transverse subsutural spot behind the middle. Metasternum and abdomen polished, the former with a few coarse, very shallow punctures at base and side, the latter with fine and still sparser similar punctures. Length 2.2–3 mm.

Texas (Belgrave), Lower California (Sierra El Taste and San José del Cabo). The type which M. Pic has very kindly sent me for examination is identical with the Belgrave specimens in the National Museum, and is probably from the same source. The Lower California specimens have the erect hairs of the elytral intervals relatively a little longer and the transverse fasciæ better developed, but I think they are identical. All specimens seen are males. A female from Pueblo, Colorado, in the National Museum collection has much longer hairy vestiture and is less parallel in form; it should perhaps be referred here.

27. **P. feminalis** n. sp.—Uniformly pale red-brown; erect hairs varying in color from yellowish white to pale brown, the recumbent hairs yellowish white. Head granulate and pilose; eyes moderate, very little larger in the male, separated on the front by about one and one-half times their vertical diameter; antennæ as long as the body in the male, outer joints fully three times as long as wide; somewhat shorter than the body in the female, the joints a little less elongate. Prothorax granulose and confusedly pilose, with longer curved hairs at the front margin; disk faintly tuberculate at sides, not prominent at the con-



striction. Elytra oblong, slightly wider behind, sides straight from the humeri to the apical third in the male, broadly arcuate in the female; stria punctures small, the interspaces fully twice as wide as the punctures; setæ of the stria punctures scarcely longer than the width of the interspaces, straight, moderately inclined; those of the interspaces about equal in length, but somewhat more erect, and alternating on every interspace with setæ of about double their length; entire base in front of a line running obliquely backward from just behind the humerus to the suture, rather thickly clothed with recumbent yellowish white hair; apical third similarly but more sparsely clothed, and with intermediate scattered hairs, especially near the suture. Metasternum distinctly longer than the second ventral segment, the fourth ventral not much shorter than the fifth and more than half as long as the third. First joint of hind tarsus barely as long as the two following united. Length  $2\frac{1}{4}$ – $2\frac{3}{4}$  mm.

Arizona (Tucson and Hot Springs); collected by Barber and Schwarz, and Wickham.

### ANOBIINÆ.

The insects of this subfamily are for the most part of a slightly depressed cylindrical form, but vary to broadly oval or nearly globular. The mentum is trapezoidal or more rarely subtriangular; labrum short and transverse; eyes rounded and usually prominent; antennæ inserted just before the eyes, of variable form but very often with the last three joints much elongated, especially in the male. Head deflexed and usually nearly or quite invisible from above, the prothorax more or less excavated beneath for its reception, except in the first two tribes and in the Ptilinini. The prothorax is usually margined at sides; scutellum distinct; body winged. Coxæ either approximate or separated, the anterior usually conical and prominent, the posterior, except in the Hedobiini, more or less distinctly sulcate for the reception of the femora. Legs moderate or short, femora not distinctly clavate, except in *Ptinodes*; tarsi sometimes slender, sometimes dilated; joints 1–4 decreasing in length; claws divaricate, simple, except in *Trichodesma*.

This subfamily is divisible into six tribes as follows:

- Front not margined, nor with impressed line over the base of the antennæ; hind coxæ not grooved for the reception of the thighs; prothorax not margined at sides.....HEDOBIINI.
- Front margined more or less acutely or with an impressed line above the antennæ; hind coxæ more or less distinctly sulcate; prothorax margined at sides, except very rarely.....2.
2. Antennæ of male strongly flabellate; exterior margin of front tibiæ prolonged at tip in a horizontal dentiform process, the margin above the tooth finely serrulate or denticulate; form of body and sculpture varying in the sexes .....6.

- Antennæ of male never flabellate, at most pectinate; front tibiæ not toothed and denticulate externally; form and sculpture not obviously different in the sexes.....3.
3. Head in repose received upon the under surface of the prothorax.....4.  
Head very strongly deflexed and retracted, the mandibles nearly or quite reaching the metasternum .....5.
4. Prothorax not excavated beneath, the head free .....DRYOPHILINI.  
Prothorax excavated beneath for the reception of the head.....ANOBIINI.
5. Trunk not grooved for the reception of the middle and hind legs; anterior coxæ contigous and depressed; head impressed or excavated beneath for the reception of the antennæ; metasternum not lobed in front; form oblong or elongate oval.....XYLETININI.  
Four posterior legs received in appropriate excavations of the metasternum and first ventral segment; metasternum frequently lobed in front; form varying from elongate-oval to globose.....DORCATOMINI.
6. Prothorax not distinctly excavated beneath, disk in the female acutely asperate anteriorly; form cylindrical.....PTILININI.

With the exception of the introduction of the Hedobiini, reasons for which have already been given, the removal of *Petalium*, *Theca* and *Eupactus* to the Dorcatomini, and some minor changes due largely to the amplification necessitated by the larger material studied, the above division into tribes and the sequence of genera which follows is not very different from that proposed by LeConte.

Following this scheme of arrangement, the genera form a nearly orderly sequence from those in which the head is but little deflexed and the members slightly contractile, to those in which the strongly deflexed head completely shuts in the pro- and mesosterna, and in which the antennæ and legs are received in appropriate excavations. I have used the words "nearly orderly" above because of the genera *Petalium*, *Theca* and *Eupactus*, which it seems quite impossible to place satisfactorily in any linear arrangement. For reasons stated under the Dorcatomini it seems more appropriate to associate them with that tribe than with the Anobiini as was done by LeConte.

HEDOBIINI.

The principal characteristics of this tribe have already been set forth, and further details will be found in the generic diagnoses which follow. Our genera are only two in number and easily separable by the form of the antennæ.

- Antennæ filiform, similar in the sexes.....**Hedobia.**  
Antennæ pectinate in the male, serrate in the female.....**Eucrada.**

Reference should be made at this point to a small series of specimens labelled "*Hedobia* sp." in the National Museum collection. These specimens were found emerging from Japanese bamboo in the Museum many years ago and would not require mention but for the fact that a single specimen has recently been taken by Mr. F. C. Pratt at St. Elmo, Virginia, a few miles below Washington. According to Mr. Schwarz, who has investigated the matter, the beetle is undescribed, but I am unwilling to give it a name and place on our lists until further experience shows that it has really established itself with us. The reference of this insect to the Hedobiini is apparently correct, but it is not an *Hedobia*, and doubtless a new genus will have to be erected for it. From *Hedobia* it differs among other characters of lesser note in its pectinate antennæ (at least in the male), its margined thorax and vertical exposed pygidium. The last named character is truly a remarkable one and does not occur in any other Ptinide genus known to me. It may, perhaps, be considered of sufficient importance to exclude the species from the Hedobiini, but if not, the presence or absence of the prothoracic side margin can no longer be held to be of tribal value.

#### **HEDOBIA** Latreille.

Mentum triangular, labrum very short and transverse, scarcely sinuate in front; palpi short, basal joint smallest, not at all curved; second and third joints obconic and a little elongate; terminal joint longer, widest beyond the middle, compressed, the apex truncate when viewed on the compressed side. Antennæ inserted at the sides of the front before the eyes, filiform, moderately compressed; basal joint oval, stout, a little longer than wide; second joint shorter; 3-10 subequal, subtriangular, the third as long as the first, the outer ones slightly longer, the eleventh noticeably longer than the tenth. Head deflexed; eyes globose, prominent, but not large; front not margined over the base of the antennæ. Prothorax narrower than the elytra, without side margin, not excavate beneath. Elytra parallel in both sexes, confusedly punctate. Prosternum without intercoxal process; mesosternum short, oblique, the coxæ narrowly separated; metasternum as long as the first two ventral segments; hind coxæ not sulcate, narrowly separated, the intercoxal process acute. Ventral segments subequal, the third and fourth just visibly shorter; the first not narrowed appreciably by the coxæ. Legs rather short

and stout, femora not clavate; tibiæ and tarsi equal in length, the former straight, gradually widened to apex, with two small spurs; the latter broad and densely pubescent beneath, first joint equal to the two following united; third and fourth short, the latter distinctly transverse and feebly emarginate; last joint triangular, as wide as long; claws strongly divaricate.

1. **H. granosa** Lec.—Oblong, moderately elongate, piceous, or piceotestaceous, elytra with three somewhat diffuse and irregular transverse dark fasciæ; clothed throughout with short recumbent cinereous hair which is not very dense, and becomes darker in color on the elytral fasciæ. Antennæ (♂) nearly as long as the body, the tenth joint twice as long as wide; evidently shorter in the ♀, the tenth joint one-half longer than wide. Head rather coarsely granulose, with smooth median line, which is somewhat variable in width; front twice as wide as the vertical diameter of the eye. Prothorax nearly as wide as long, a little constricted behind the apex, slightly wider posteriorly, where it equals the width of the head across the eyes; disk elevated at middle and compresso-carinate posteriorly; surface moderately closely granulose. Elytra about two-thirds wider than the prothorax, parallel, confusedly granulate-punctate, with numerous evenly distributed, smooth, flattened tubercles; margin finely serrulate posteriorly. Beneath polished and rather closely punctate, sparsely pubescent; fifth ventral truncate at apex, and in the female with a transverse, deep, polished, apical fovea. Tibiæ granulate along the exterior margin, the outer apical angle slightly prominent. Length 3-4½ mm.

This species inhabits the California coast region from San Francisco to Los Angeles but is much more common in the northern part of its range. According to Rivers it has been found breeding in dead branches of the California laurel (*Umbellularia californica*) near San Francisco. In Southern California it occurs on live oak in the dead branches of which it probably breeds, as does its congener *H. angulata*.

2. **H. angulata** n. sp.—Similar to *granosa*, except as follows: The form is a trifle more slender; the elytra are better described as piceous, with two sharply contrasting, irregularly angulate, pale fasciæ; smooth tubercles entirely wanting; head without median smooth space.

Southern California. Not rare at Pomona and Pasadena, where I have beaten it from the foliage and from dead limbs of live oak, in which it doubtless breeds. It will probably be found mixed with *granosa* in many collections.

#### **EUCRADA** LeConte.

This genus possesses in the main the same characters as *Hedobia*, but differs conspicuously in the antennæ, which are pectinate in the male and quite strongly serrate in the female, and are inserted

higher on the front near the inner margin of the eye. The last palpal joint is nearly parallel, widest at about the middle; the elytra are somewhat irregularly seriate punctate; middle coxæ a little less narrowly separated; fifth ventral segment longer; tibial spurs differing in the sexes.

We have but a single species, which is so well known as to need only a brief description.

1. **E. humeralis** Lec.—Oblong, moderately elongate, dull black; prothorax except basal and apical margins, and the humeral umbone reddish yellow. Head granulate and rather densely clothed with fulvo-cinereous hair. Prothorax with fulvous hair, surface granulate, disk obtusely elevated. Elytra alutaceous, closely rather coarsely striate-punctate, the rows somewhat irregular, especially toward the suture; intervals narrow, feebly convex, pubescent, the humeral one a little more conspicuously cinereous pubescent, giving the appearance of a narrow vitta. Length 4-5½ mm.

This pretty species occurs in the North Atlantic States and Canada extending west to Michigan and Kentucky. The statement in the "Classification" that the tibiæ have but a single spur is erroneous. There are two spurs in both sexes, and in the female these are of the usual size; in the male the inner one is much enlarged and the smaller outer one being close to it may easily be overlooked.

#### DRYOPHILINI.

The members of this tribe agree in having the head only moderately deflexed, the prothorax not excavated beneath for its reception, the legs not received in cavities, the hind coxæ rather feebly sulcate. The antennæ are 11-jointed, except in two species of *Ernobius*, the three outer joints more or less dilated and elongated in all our genera. They are not received between the front coxæ, which are either contiguous or narrowly separated. The seven genera represented in our fauna vary much in appearance as well as in details of structure. They separate as follows:

Front coxæ only moderately prominent, separated by a distinct prosternal process.

Tarsi broad, prosternum short before the coxæ.

Intermediate joints of antennæ subequal..... **Xestobium.**

Intermediate joints of antennæ unequal, the fifth and seventh wider and more elongate..... **Utobium.**

Tarsi relatively narrow.

Prothorax margined at sides.

Antennæ 10-jointed, prosternum very short before the coxæ, mesosternum vertical between the coxæ..... **Microzogus.**

Antennæ 11-jointed, prosternum long before the coxæ, mesosternum oblique ..... **Ozognathus.**

Prothorax not margined at sides. .... **Xarifa.**

Front coxæ conical, very prominent and contiguous.

Fourth tarsal joint short, emarginate; antennal stem not serrate; prothorax, except very rarely, with sharply defined side margin... **Ernobius.**

Fourth tarsal joint elongate, not emarginate; antennal stem serrate; prothorax not margined at sides. .... **Paralobium.**

Of the above genera only *Ernobius* and *Xestobium* occur in Europe, where, owing to a different basis for classification they are included in the Anobiini. The genera *Episeruus* Thom. and *Ochina* Steph. represented in Europe by a moderate number of species would also fall in the Dryophilini as above constituted; in fact the former genus is doubtfully distinct from *Ernobius*, being distinguished only by the 10-jointed antennæ and non margined sides of the prothorax, characters which are possessed wholly or in part by two of our species which I have not thought best to separate generically from *Ernobius*. *Ochina* is quite anomalous in its feebly serrate antennæ with the outer joints not elongate, and therefore placed by European systematists in the Xyletinini. It is one of those genera with composite affinities and for this reason not easy to place in line. The front coxæ are contiguous and the tarsi rather slender, with the fourth joint emarginate. I should therefore place it after *Ernobius*.

Two genera only constitute the Dryophilini in the European Catalogue, viz. *Dryophilus* and *Priobium*, both of which are unrepresented in America. They differ from all our genera in their regularly punctate-striate elytra. *Priobium*, because of its distant front and middle coxæ should stand at the head of the tribe, where also one would naturally place it because of its resemblance to the preceding tribe in its relatively narrow unmargined prothorax. In *Dryophilus* the thorax is also without side margin, and this together with the more frontal insertion of the antennæ point toward the Hedobiini; the coxæ, however, are contiguous and the general fascies is much like some of our species of *Ernobius*.

#### **XESTOBIUM** Motschulsky.

The species of this genus are oblong, parallel, moderately stout and of rather more than average size. The mentum is transversely trapezoidal, labrum short and truncate or broadly rounded ante-

riorly; labial and maxillary palpi similar, their terminal joints largest, nearly twice as long as wide, fusiform, pointed. Antennæ 11-jointed, joints 9-11 longer. Eyes moderately prominent, but not large. Prothorax nearly or quite as wide as the elytra, sides margined. Elytra parallel, confusedly punctate. Front coxæ moderately prominent, distinctly but narrowly separated; prosternum short before them, the intercoxal process becoming wider and ascending posteriorly. Middle coxæ moderately separated; hind coxæ sulcate, the coxal plate suddenly and strongly dilated internally. Ventral segments 1 and 2 equal, 3 and 4 equal and slightly shorter, 5 longest. Legs short and thick, the tarsi wide and densely pubescent beneath.

Four species have been described from our fauna, one of which, *elegans*, is so aberrant in several points of structure, notably in antennal formation, that I have thought best to make it the type of a new genus, a procedure indeed, which its author predicted would be found necessary in the event of a revision of the Anobiini.

Our species are thus separated:

- Elytra distinctly granulato-punctate, side margin of prothorax more broadly flattened.....1. **rufovillosum**.  
 Elytra more finely punctate, the granules very feebly developed.....2. **affine**.

A careful examination of the type of *squalidum* shows that it is only a small specimen of *rufovillosum*, the antennal differences given by LeConte for the separation of the two being almost entirely imaginary.

1. **X. rufovillosum** DeG.—Form rather stout, parallel, two and one-half times as long as wide; dark brown, tessellate with short fuscous and fulvous hairs, the darker ones very inconspicuous. Antennæ (fig. 18) a little longer than the head and thorax; first joint stout, oval; second much narrower and half as long as the first; third to eighth subequal in length and gradually wider, the third fully twice as long as wide, the eighth one-half longer than wide, ninth subtriangular twice as long as the eighth and about one-half wider, tenth similar to the ninth but slightly smaller, eleventh elongate-oval, widest at middle, a little longer than the ninth and more slender. Prothorax two-thirds as long as wide, very obscurely impressed along median line, sides feebly arcuate, margin rather broadly flattened and a little reflexed, front and hind margins arcuate and a little sinuate each side, angles all rounded; surface as well as that of the head and elytra strongly, rather densely granulate-punctate, the granules becoming less strong on the head and toward the elytral apex. Under side sparsely inconspicuously pubescent and rather strongly, closely punctate throughout, the punctures simple and less close on the abdomen, becoming denser on the sterna and parapleuræ; the prosternum and mesosternum throughout and the anterior parts of the metasternum strongly granulose. Length 6-7.5 mm.



This species is rather common locally from the New England States to Illinois. The localities represented in the material before me are New Hampshire, Massachusetts, Rhode Island, Michigan, Indiana, Illinois. It is not given in the New Jersey, District of Columbia or Southwestern Pennsylvania lists.

2. **X. affine** Lec.—Piceous brown, a little smaller on the average than *rufo-villosum*, the description of which applies sufficiently well except in the following particulars: The antennæ (fig. 19) are distinctly more slender; joints two to eight almost filiform; the prothorax is a little less widely margined at sides and the elytra are scarcely visibly grannlose. Length 5.5--6.5 mm.

Vancouver, Washington, Oregon, Northern California (Sonoma County).

### **UTOBIUM** new genus.

Joints five and seven of antennæ similar to and nearly as long as ninth to eleventh; terminal joints of maxillary palpi widest behind the middle, compressed and truncate at apex; last joint of labial palpi short, rapidly dilated and widely truncate; prosternal process parallel, not dilated behind the coxæ; plates of hind coxæ gradually wider internally; tarsi narrower, the third and fourth joints fully as long as wide. Otherwise similar to *Xestobium*.

One species is known.

1. **U. elegans** Horn.—Parallel, rather strongly convex, blackish brown, marmorate with short recumbent fuscons and cinereous hairs, the former more sparse, the latter condensed in small spots which tend to coalesce into imperfect fasciæ at the basal and apical fourth of the elytra, and are nearly wanting at the middle and toward the apex of each elytron. On the prothorax the pale hairs occupy the entire lateral fourth, a narrow transverse anterior fascia inclosing two rounded apical dark spots, and a posterior longitudinal line each side of the middle. Entire upper surface polished and rather densely punctate, not distinctly granulate at any part. Antennæ (fig. 20) less than half the length of the body, first joint robust, a little longer than wide; second somewhat similar but smaller; third and fourth narrow, the former more elongate; fifth and seventh elongate-triangular, twice as long and nearly twice as wide as the fourth; sixth and eighth triangular, scarcely longer than wide, narrower than and about half as long as the fifth and seventh; ninth and tenth similar to fifth and seventh but slightly longer; eleventh still longer and slightly narrower, feebly fusiform. Prothorax one-fourth wider than long, narrowed in front, sides somewhat flattened but less so than in *Xestobium*, disk not channeled. Elytra a little wider than and four times as long as the prothorax. Lower surface nearly black, closely, simply punctate and moderately pubescent. Tarsi paler, the first joint slightly longer than the next two. Second joint feebly, third and fourth more strongly emarginate superiorly for the insertion of the following joints. Length 5-6.5 mm.

A widely distributed species, having been taken in Western Nevada (Morrison); Brightons, Utah; Marquette and White Fish Point, Michigan (Schwarz); and Anticosti Island (Dr. J. Schmitt).

**MICROZOGUS** new genus.

The above name is proposed for a minute species evidently allied to *Ozognathus*, but differing in its more compact form, glabrous surface, 10-jointed antennæ, and by the mesosternum being vertical between the coxæ. The prosternum is excessively short before the coxæ. The first ventral suture is nearly as well defined as the others.

1. **M. insolens** n. sp.—Oblong-elliptical, varying in color from pale brown to piceous, surface shining, glabrous, very sparsely minutely punctate. Prothorax as wide as the elytra, strongly transverse, the sides explanate, all the angles rounded. The antennal club is longer than in *Ozognathus*, being distinctly longer than all the preceding joints united, the first joint of the club quite as long as the terminal joint. The first four joints are proportioned nearly as in *Ozognathus*, the next three are very short and difficult to count. The prosternum is scarcely punctured at sides; the metasternum is distinctly but not closely punctate. The tarsi are short, the first joint scarcely longer than wide, at least on the front feet. Length 1-1.3 mm.

Florida (Key West and Biscayne).

**OZOGNATHUS** LeConte.

The members of this genus are small, oblong, subcylindrical, confusedly punctate and sparsely or moderately pubescent. Mentum subtrapezoidal; basal joint of maxillary palpi small, second and third joints a little elongate and widened apically, terminal joint larger, scarcely twice as long as wide, feebly dilated near the middle, the apex truncate; labial palpi similar, the terminal joint widest near the apex. Antennæ less than half the length of the body, the intermediate joints small and almost cylindrical, the third, fifth and seventh visibly longer, ninth to eleventh enlarged, forming a club, which is about equal in length to all preceding; the ninth triangular, twice as wide and about as long as the three preceding, the tenth similar but a little shorter, the eleventh visibly longer, elongate-oval. Eyes small, prominent. Prothorax evenly convex, with distinct angles. Elytra parallel and scarcely or slightly wider than the thorax. Anterior coxæ oval, not very prominent, narrowly separated, the prosternal process scarcely wider behind; prosternum

before the coxæ subequal in length to the longitudinal diameter of the coxa. Mesosternum flat, a little oblique, middle coxæ more distinctly separated; hind coxal plates gradually dilated internally and obtusely angulate. First and second ventral segments longest, subequal, connate, the suture more or less obliterated in some species; third and fourth segments nearly equal and about three-fourths the length of the second; fifth segment a little longer than the fourth. Tarsi rather narrow, fourth joint a little dilated, as wide as long, fifth elongate.

Three species are indicated in the material at hand, two closely allied from the Pacific region, and one from the Atlantic and Gulf regions, capable of being separated subgenerically from the typical west coast forms. *Cornutus* has been bred from galls and it is probable that the other species have the same habits. The genus *Micranobium*, described by Gorham in the "Biologia," represents, says its author, "two types, one resembling a small *Cis*, the other a very small *Anobium striatum*." A specimen of the former of these, *M. exiguum*, sent me by M. Pic, proves to be an *Ozognathus*; the other is a *Petalium*.

Our three species separate in the following manner:

First ventral suture feebly marked, nearly obliterated at middle, each mandible of the male with an erect horn arising from its base, punctuation and pubescence denser.

Form stouter, color nearly black (California).....1. **cornutus.**

Form a little more elongate, color brown (Arizona) .....2. **dubius.**

First ventral suture distinct throughout, mandibles of male not horned, punctuation and pubescence relatively sparse.....3. **floridanus.**

1. **O. cornutus** Lec.—Rather stout, parallel, blackish brown, moderately shining, somewhat sparsely clothed with short, fine, pale, subrecumbent pubescence. Head and thorax moderately strongly, but not coarsely punctate, the punctures separated on an average by their own diameters; elytra more sparsely and rather more finely punctate, especially toward the apex. Antennæ rufous, the club frequently blackish, especially in the male. First joint stout, oval; second similar but smaller; three, five and seven distinctly elongate; four, six and eight shorter, nearly as wide as long; ninth to eleventh forming a loose club about equal to the preceding joints united; the ninth elongate-triangular, as long as the three or four preceding; tenth a little shorter; eleventh longer than the ninth. Prothorax transverse, sides nearly parallel and rather broadly rounded, sinuate before the hind angles, which are sharply defined and right or a little acute; base rounded, sinuate within the angles; disk even or with a faint impression each side the middle posteriorly. Elytra a little wider than the thorax, sides nearly parallel. Sterna and parapleuræ rather densely, evenly punctate; abdomen more sparsely punctured. Legs rufous throughout, or with the femora blackish. Length 1.5–2.8 mm.

California. Rather common from San Francisco south, the localities represented in the material studied being "San Mateo County," Los Gatos, "Los Angeles County," Pomona, Riverside, Pasadena, Kaweah. There is much variation in size, in the prominence of the hind angles of the prothorax, and in the development of the mandibular horns of the male. These latter are sometimes not longer than their distance apart, but when fully developed attain the level of the prothorax (the front being vertical) curving outward then inward and approaching one another at tip. The joints of the antennal club are usually a little more elongate in the male, and the last ventral of the female is minutely sparsely granulate. In view of the great variability observed in *cornutus*, I cannot believe that *misellus* Lec. is anything more than a very small specimen of this species in which the hind angles of the prothorax are less prominent than usual. It was described from a unique female from San Diego.

2. **O. dubius** n. sp.—Very closely allied to *cornutus*, but evidently less stout, a little less shining, slightly more finely punctate and with the pubescence more obvious. These differences are small, but taken together seem sufficient for specific separation. In the types the color is brown, but some smaller examples from the same locality provisionally placed with the types are piceous in color. Length 2.4–2.7 mm.

Williams, Arizona (Barber and Schwarz). One specimen from Ouray, Colorado (Wickham) is probably not different.

3. **O. floridanus** Lec.—Black, shining; antennae, legs and frequently the head and prothorax rufous; punctuation fine and sparse, closer on the prothorax; pubescence very fine, sparse and inconspicuous. Mandibles in the male without horns. Prothorax more strongly transverse than in *cornutus*, nearly or quite as wide as the elytra, the sides strongly rounded, margin minutely crenulate, hind angles small, obtuse. Beneath densely punctate anteriorly, ventral segments more sparsely so. Length 1.3–2 mm.

Occurs in the South Atlantic Coast Region. New Jersey (Anglesea), Virginia (Ft. Monroe), Florida (Crescent City and Tampa). With these I have placed a series taken by Mr. Schwarz at Goliad, Texas, which does not differ materially.

#### **XARIFA** new genus.

Labrum very short, arcuate in front, mentum subtrapezoidal; palpi short, terminal joint largest, ovate, pointed; antennae 11-jointed, last three joints enlarged and together nearly or quite as long as

all those preceding; the intermediate joints not at all serrate. Eyes rather small, rounded, and moderately prominent. Prothorax narrower than the elytra, sides not margined. Elytra parallel and subcylindrical. Prosternum as long before the coxæ as their diameter or very nearly so, intercoxal process narrow but distinct. Mesosternum oblique, narrowly separating the middle coxæ. Hind coxæ feebly grooved, the coxal plates narrow and evanescent before reaching the episterna. Ventral segments one and two longest, the latter slightly longer than the former behind the coxæ; third and fourth shorter, fifth nearly as long as the second. Legs moderate. Tarsal joints one to four decreasing in length, first about twice as long as wide, fourth not longer than wide, the fifth elongate, inserted upon the upper surface of the fourth. Tibiæ without distinct spurs.

1. **X. insularis** n. sp.—Dark brown, legs and antennæ paler; surface shining and sparsely pubescent. Head sparsely punctate, eyes a little more prominent than the sides of the prothorax. Antennæ half the length of the body; first joint robust, oval, second smaller but similar, third to eighth subcylindrical or slightly wider apically; four, six and eight but little longer than wide; three, five and seven more distinctly elongate; ninth to eleventh one-half wider than the preceding and nearly (♀) or quite (♂) as long as all the preceding united; ninth about equal to the three preceding; tenth scarcely as long; eleventh slightly longer than the ninth. Prothorax nearly as wide as long, widest before the middle, sides not margined, surface regularly convex and moderately closely granulate-punctate, the granules becoming feeble towards the middle, the median line smoother. Elytra distinctly wider than the thorax and about two and one-half times as long, sides parallel or very faintly wider posteriorly, punctuation simple, the punctures distant by about twice their own diameter at base, finer and more distant at apex. Punctuation and pubescence of lower surface similar to that above. Length 1.5-2.2 mm.

California, Santa Catalina and San Clemente Islands.

This species was discovered by me on Santa Catalina Island in July, 1894, and specimens were subsequently found by Mr. Joseph Grinnell on San Clemente. Specimens were shortly afterward sent to several specialists for an expression of opinion as to its relationship, but none were able to assign it a place except Mr. Schwarz, who referred it provisionally to *Dryophilus*. This latter genus is, however, more closely related to *Ernobius* by its contiguous front coxæ and differs furthermore from *Xarifa* in antennal and tarsal formation and in its striate elytra; it has not thus far been recognized in this country. In *Xarifa* alone, of all our genera, the tibial spurs are entirely lacking, or at least indistinguishable from the

terminal bristles. All specimens seen but one are females, these differing from the male in their somewhat smaller eyes, shorter antennal club, and in the fifth ventral segment being strongly tuberculate before the apex.

**ERNOBIUS** Thomson.

Mentum transverse, trapezoidal; maxillary and labial palpi similar, the terminal joint largest, longer than wide, moderately dilated outwardly and obliquely truncate in the greater number of species, feebly dilated or nearly parallel in a few—*e. g. granulatus* and *luteipennis*; widest at or behind the middle, narrowed and feebly truncate at apex in *marginicollis*, *gentilis* and *trapezoideus*. Labrum strongly transverse, truncate or broadly arcuate in front. Antennæ 11-jointed, rarely 10 jointed (*gentilis* and *trapezoideus*), as long as or a little longer than half the body in the male, somewhat shorter in the female; the three outer joints much elongated and usually wider than the intermediate ones, which are not at all serrate. First joint moderately stout, second shorter and narrower but similar; the following joints somewhat variable in their relative lengths, but the third, fifth and seventh usually obviously longer than those adjacent to them, sixth to eighth shorter than those preceding, eighth shortest and sometimes distinctly transverse; ninth to eleventh not very unequal in length, their united length, except in females of a few species, longer than all the preceding and always longer in the male, in which they are narrower and more filiform than in the female. Eyes strongly convex, variable in size, but larger in the male. Epistoma short, the suture usually more or less arcuate and lightly impressed; straight or sinuate at middle and rather deeply impressed in *marginicollis* and *trapezoideus*. Prothorax wider than the head, except in male of *trapezoideus*, transverse, sides narrowly or more commonly rather widely margined (not margined in *trapezoideus*), hind angles sharply defined in *trapezoideus* only, usually more or less broadly rounded and often completely undefined.

Elytra parallel, elongate, as wide as or a little wider than the prothorax; confusedly punctate. Prosternum moderate or short before the coxæ, varying from about one fourth the longitudinal diameter of the coxa in *granulatus* to one-half in *marginicollis*. Mesosternum moderate in length, oblique, becoming nearly horizon

tal in front where it is bifoveate for the reception of the front coxæ. Metasternum rather long, side pieces wide. Front coxæ contiguous, middle coxæ narrowly separated in most species, nearly or quite contiguous in a few. Legs rather slender, femora moderately thickened, not clavate, but subpedunculate at base in *marginicollis*; tibiæ and tarsi slender, the latter, however, in variable degree, being relatively stout in *marginicollis* and exceedingly slender in *trapezoidens*. First joint of tarsi equal to the two or rarely the three following; second joint subequal to the next two; fourth shortest, about as wide as long and more or less emarginate at apex (except *marginicollis*); fifth inserted upon the upper face of the fourth, usually nearly as long as the third and fourth united, and from two to three times as long as wide. Ventral segments not very unequal, the second always longer than the first, the fifth longer than the third or fourth. A sixth segment is nearly always visible and is usually sinuate or feebly notched at tip, the emargination usually a little more pronounced in the male, but in some species scarcely different in the sexes, in *fissuratus* the emargination is unusually deep.

The species of this genus are more or less elongate, parallel, moderately convex insects varying in length from 2–5.5 mm. They are all clothed with fine recumbent hairs which are very short and sparse in a few species, moderately plentiful in others, and in one—*marginicollis*—there are short intermixed erect hairs. Nearly all occur on pines.

Antennæ 10-jointed ..... 5.

Antennæ 11-jointed ..... 2.

2. Pubescence with intermixed, short erect hairs; sides of pronotum serrate; last joint of maxillary palpi widest at or behind the middle..... 4.

Pubescence without intermixed erect hairs; sides of pronotum not serrate; last joint of maxillary palpi widest toward the apex..... 3.

3. Ninth joint of antennæ shorter than the three preceding united in both sexes.

Elytra more densely punctate (Atlantic States)..... 1. **mollis**.

Elytra less densely punctate (Pacific Coast).

Joints 6-8 of antennæ each more than twice as long as wide.

2. **socialis**.

Joints 6-8 of antennæ always less than twice as long as wide.

3. **punctulatus**.

Ninth joint of antennæ as long as the three or four preceding united,

Sides of prothorax nearly straight and convergent anteriorly, the front angles rounded; ninth joint of antennæ equal to the three and one-half preceding (♀?); brown, prothorax not granulate. 4. **convergens**.



Sides of prothorax arcuate, not distinctly convergent anteriorly; front angles well defined.

Blackish, prothorax paler and evidently granulate; ninth joint of antennæ equal to the three preceding.....5. **collaris**.

Fuscotestaceous, prothorax not granulate, ninth joint of antennæ (♂?) equal to the three preceding; tarsi rather stout.....6. **alutaceus**.

Fusco- or rufotestaceous, prothorax granulate, ninth joint of antennæ fully equal to the four preceding, tarsi slender.

Front (♂) a little less than twice as wide as the longest diameter of the eye and scarcely two and one-half times its width; sixth ventral deeply cleft.....7. **crotchii**.

Front (♂?) fully twice as wide as the longest diameter of the eye and about three times the width of the latter; sixth ventral broadly emarginate.....8. **gracilis**.

Ninth joint of antennæ as long as the five or six preceding united in the male (Rocky Mt. and Pacific Coast species, except *lacustris*).

Pronotum granulate-punctate.

Piceous brown, size larger (4.8-5.5 mm.), Michigan.....9. **lacustris**.

Brown, size larger (5.1-5.2 mm.), Arizona.....10. **fissuratus**.

Black, size smaller (2.4-3.6 mm.), California, Arizona.....11. **nigrans**.

Pronotum simply punctate, at least broadly so at middle.

Black (♂), brown (♀); prothorax transversely impressed.

12. **pallitarsis**.

Black (♀ not known); prothorax not at all impressed transversely.

13. **tristis**.

Rufotestaceous or brown in both sexes.....14. **montanus**.

Ninth joint of antennæ fully equal to the six preceding in the male (Atlantic States species).

Fifth joint of antennæ subequal to the fourth and much shorter than the third; elytra more shining than the head and pronotum.

Head and pronotum opaque, scabrous punctate or feebly granulate, elytra shining; color piceous.....15. **filicornis**.

Head and pronotum granulate and opaque, elytra variable but usually subgranulate or feebly scabrous toward the base, more shining toward the apex; color rufotestaceous.....16. **granulatus**.

Fifth joint of antennæ much longer than the fourth and subequal to the third; elytra less shining than the head and pronotum.....17. **opicus**.

Ninth joint of antennæ nearly equal to all the preceding in the male; joints 6-8 quite strongly transverse, the eighth sublenticular in the male (Atlantic States).

Head and prothorax black or piceous, the elytra testaceous in the male; head and prothorax usually a little darker than but sometimes concolorous with the elytra in the female.....18. **luteipennis**.

Entirely rufotestaceous.....19. **tenuicornis**.

4. Dark brown, ninth joint of antennæ equal to the five preceding in the male, a little longer than the three preceding in the female; last ventral segment more or less evidently bituberculate in the female.

20. **marginicollis**.

5. Hind angles of prothorax undefined, the sides broadly rounding into the base.

21. **gentilis.**

Hind angles of prothorax distinct and a little prominent; sides nearly straight and convergent from the base, the margin ill defined.

22. **trapezoideus.**

1. **E. mollis** Linn.—Rather robust, brown, not very strongly shining, clothed with short, fine, recumbent, cinereous or fulvo-cinereous hair. Head granulate-punctate, eyes separated on the front by about twice their vertical diameter, only slightly larger in the male. Antennæ half the length of the body (♀) or a little longer (♂), all the joints longer than wide; joints 2-4 nearly equal and slightly narrower than those following; 5 and 7 longer than 4, 6 and 8; 9 filiform and a little longer than 7 and 8 united (♂), or a little wider apically and barely equal to 7 and 8 (♀); 10 and 11 each subequal to 9, the three united slightly longer than all the preceding (♂), or barely as long (♀). Prothorax as wide as the elytra, strongly transverse; sides rather strongly arcuate and broadly margined, front angles rounded, hind angles not defined; surface quite closely granulate-punctate, disk a little uneven but without distinct transverse impression. Elytra parallel, about twice as long as wide, punctuation nearly as dense but slightly finer than that of the prothorax, scarcely granulate, except near the base. Metasternum at sides closely, at middle more sparsely punctate, the episterna densely so; abdomen rather finely and sparsely punctured; prosternum short before the coxæ, being about one-fourth the coxal length; basal joint of tarsi subequal in length to the next two together. Length 4-5½ mm.

This common European species has been introduced into the Atlantic States where it occurs in the coast region from Maine to Virginia. I have seen no specimens from west of the Alleghanies, and do not know how far into the interior the species has penetrated. In the Michigan list Hubbard and Schwarz record this species from Marquette, but this is an error of identification, the form found being the one described in the present paper as *cpicus*. Hamilton speaks of it in his List of the Coleoptera common to Europe and North America as being found near Pittsburg, but does not give it in his Southwestern Pennsylvania List published six years later. Drury records it in his Cincinnati List, but this may also be in error. It is not rare in eastern New England on or about pine trees.

2. **E. socialis** n. sp.—Similar in form and color to *mollis* and *punctulatus*, but more shining than either, because of the finer, sparser, elytral punctuation which is not at all granulate, or only at the extreme base. Head distinctly granulate; eyes large, the width of the front between them not more than one and three-fourths times their vertical diameter. Antennæ more slender than in *mollis* or *punctulatus*, joints 6-8 each fully two and one-half times as long as wide, the fifth evidently, the seventh slightly longer as usual; ninth a little longer than seventh and eighth united and fully five times as long as wide. Prothorax granulate-

punctate, nearly equal to the elytra in width, sides nearly as strongly rounded as in *mollis*. Pubescence of upper surface a little longer and more yellow than in *mollis*. Length  $4\frac{1}{2}$  mm.

California, Santa Clara County.

With the type, which is a male in my collection, is placed another male in the Horn collection which is larger ( $5\frac{1}{2}$  mm.), with the antennal joints even more elongate, though perfectly similar in their mutual proportions, the prothorax not granulate on the disk and less broadly margined at sides. In both specimens the elytra are a little swollen and paler in color on either side of the suture at the apex, a character which has been observed in individuals of several other species.

3. ***E. punctulatus*** Lec.—Similar in color and form to *mollis* but smaller, with rather more shining surface and longer more fulvous pubescence. Head and prothorax quite closely and conspicuously granulate-punctate, elytra with simple punctures which become granulate at base. Eyes moderate, front fully twice as wide as their vertical diameter in the male and slightly wider in the female. Antennæ proportioned nearly as in *mollis*, joints 6-8 each scarcely twice as long as wide, the ninth but little if any longer than the two preceding united. Prothorax less strongly rounded at sides, the front angles more distinct, and the elytral punctuation less close than in *mollis*. Length  $2\frac{1}{2}$ - $4\frac{1}{2}$  mm.

California, Oregon, Washington, Vancouver.

A common species ranging along the coast from below San Francisco to Victoria, and in the Sierras from Middle California to Hood River, Oregon, and eastern Washington. In a considerable number of specimens, notably in those from the Sierras of California, the three outer joints of the antennæ are infusate. There is also much variation in size and in the extent of the surface granulation, the elytral punctuation of certain small specimens from the coast region being subgranulate throughout. In these smaller specimens the intermediate joints of the antennæ are often relatively shorter than in typical specimens, but in a considerable series showing every gradation in size it is impossible to draw any line of separation. One of these smaller forms was described as *debilis* by LeConte; I must, with present light, regard it as a synonym of *punctulatus*.

4. ***E. convergens*** n. sp.—Brown, moderately shining and generally similar in appearance to *punctulatus*, from which it differs as follows: The sides of the prothorax are less widely margined, less arcuate, and distinctly though not strongly convergent from base to apex. The punctuation is not distinctly granulate at any part, the punctures of the head being surrounded by a narrow feebly raised annulus, which is still less obvious on the prothorax, the punctuation of

the latter being denser than in *punctulatus*. Joints 2 and 4 of the antennæ are of equal length, 6 and 8 are equal and a little shorter, 3 and 5 nearly equal and very distinctly longer; 7 shorter than 3 or 5, but longer than 6 or 8; 9 rather longer than the three preceding united and evidently narrower than in *punctulatus*. Length  $4\frac{1}{4}$  mm.

California. One example, seemingly a female, in the Horn collection.

5. **E. collaris** n. sp.—Form of *punctulatus*; black, prothorax dark rufous, tibiæ and tarsi paler. Head densely granulate, eyes rather small, separated on the front by three times their vertical diameter; antennæ (♀) rather short, joints 2-5 nearly equal, third and fifth a little longer, 6-8 shorter, the seventh just visibly longer than the sixth or eighth, sixth and eighth scarcely longer than wide; ninth fully as long as sixth to eighth united. Prothorax a little more strongly rounded on the sides, and with the front angles more rounded than in *punctulatus*; punctuation throughout nearly as in the latter species; pubescence cinereous. Length 3.4 mm.

California (Pasadena).

Described from a single female specimen taken by Dr. Fenyes, in whose collection the type remains. This species should be at once known by its color if that proves constant, otherwise the very short sixth to eighth joints of the antennæ may be relied upon to distinguish it from its allies, of which the smaller forms of *punctulatus* seem nearest. The prosternum is unusually long before the coxæ, being fully equal to half the coxal diameter from front to back.

6. **E. alutaceus** Lec.—Size of rather large *mollis*, but obviously narrower than either that or *punctulatus*. Head finely granulate, prothorax scarcely visibly so, elytra with simple, fine punctuation, except at extreme base, where it becomes finely granulate. Prothorax distinctly transversely impressed across the middle of the disk, the outline and angles nearly as in *punctulatus*. Joints 3, 4, 6 and 8 of antennæ nearly equal, 5 and 7 a little longer, but the disparity is less marked than in *mollis* and *punctulatus*; 9 subequal to the three preceding.

The type is said by LeConte to be a female, but this is by no means certain; indeed, I should rather think it a male, judging from the parallel ninth antennal joint and the prominent eyes, the front barely twice as wide as the longest diameter of the eye, or about two and one half times the width of the eye as seen from the front. The sixth abdominal segment is feebly notched at the tip. Tarsi quite stout for an *Ernobius*.

"California." Collected by Murray.

7. **E. crotchii** n. sp.—Similar in form to *alutaceus* or very slightly more elongate, prothorax plainly granulate, base of elytra just visibly so. Prothorax narrower than in *alutaceus* and fully three-fourths as long as wide, obviously narrower than elytra at base, the transverse impression feeble but traceable.

Eyes and front nearly as in *alutaceus*; antennæ slender, joints 2, 3 and 4 nearly equal, the second stouter; 3 and 4 fully twice as long as wide (similarly proportioned but stouter in *alutaceus*); 6 and 7 subequal, the latter just visibly the longer, and each very slightly shorter than 2, 3 or 4; 8 shorter, as wide as long or very nearly so; 9 a little longer than the four preceding. Sixth ventral deeply cleft; tarsi more slender than in *alutaceus*.

California. Collected by Crotch, near San Francisco if my memory serves me.

The specimen which forms the type of this species was placed with the type of *alutaceus* in the LeConte collection, but though there is a considerable resemblance between them I believe them quite distinct. The type of *Crotchii* is certainly a male, the genitalia being exposed.

8. **E. gracilis** Lec.—“Elongate, rufotestaceous, less shining, finely pubescent, densely scabrous-punctulate. Eyes moderate in size, very convex. Antennæ half the length of the body, rather stout, joints 3-8 nearly equal in length, 5-8 wider than 3rd and 4th; 9th as long as the five preceding united, 10th and 11th each as long as the ninth. Prothorax more than twice as wide as long, sides very much rounded and widely margined, concavity of the margin extending along the base to a basal fovea, where it becomes narrower. Elytra convex, finely margined.” “Length 3.7 mm.”

“Garland, Colorado; one male.”

LeConte's statements that joints 3-8 of the antennæ are nearly equal in length, and that the prothorax is more than twice as wide as long are probably both incorrect, at least they do not at all apply to any other species in our fauna and it is easier to believe an error has been made in description than to imagine so great a deviation from the prevailing type.

Since the above transcription of LeConte's original description and the remarks following were written, I have personally examined the type at Cambridge and find the description to be in error as suspected above. The prothorax is of the usual form and plainly less than twice as wide as long. Joints 3, 5 and 7 of the antennæ are subequal, and 4, 6 and 8 are also subequal and a little shorter; 9 is not much longer than the four preceding. The front is about twice as wide as the longest diameter of the eye; the prothorax very feebly, just visibly granulate; the sixth ventral broadly not deeply emarginate. According to LeConte the type is a male; of this I do not feel at all certain.

9. **E. laeustris** n. sp.—Nearly similar in form, but a little larger than the average *mollis*, and also a trifle more slender; color piceous brown, the suture indefinitely paler. Head and prothorax closely conspicuously granulate; elytral punctuation nearly as in *mollis*; pubescence short, fine and rather sparse. Eyes in the male large, the width of front less than twice their vertical diameter; evidently smaller in the female, the front a little wider than twice their vertical diameter; frontal suture more strongly impressed than in *mollis*. Antennæ a little longer than half the body in the male; third joint a little longer than the fourth or fifth, the latter two nearly equal and together nearly as long as 6-8; seventh just visibly longer than the sixth or eighth; ninth very elongate, fli-form, a little longer than the five preceding in the male, a little shorter in the female. Prothorax rather less strongly transverse than in *mollis*, front angles rounded, hind angles undefined. Length 4.8-5.5 mm.

Michigan, Marquette and Ann Arbor (Hubbard and Schwarz); Dakota (Ulke collection).

10. **E. fissuratus** n. sp.—Moderately elongate, brown, head and prothorax granulate-punctate. Joints 2-5 of antennæ subequal, 2 and 5 being just visibly longer than 3 or 4; 6-8 short, 7 evidently longer than 6 or 8, the latter two about as wide as long in the male, but a little elongate in the female; 9 nearly equal to the six preceding in the male or four preceding in the female. Prothorax less than twice as wide as long, front angles distinct, hind angles rounded but somewhat defined. Length 5.1-5.2 mm.

Williams, Arizona. Two examples taken by Barber and Schwarz. This species resembles both *gracilis* and *montanus*, but seems clearly distinct. From the former it differs in its less transverse prothorax and differently proportioned antennal joints; from *montanus* it may be separated by its larger size, granulate head and thorax, smaller eyes, different proportions of joints 2-5 of antennæ, and less broadly rounded hind angles of prothorax. The sixth ventral segment in *fissuratus* is deeply cleft in the male, the fissure about one third as long as the fifth ventral, and in the female it is deeply triangularly emarginate, the emargination as deep as wide. In *montanus* the sixth ventral segment is broadly emarginate, the emargination much wider than deep and nearly the same in both sexes.

11. **E. nigrans** n. sp.—Rather slender, black, legs and antennæ slightly or distinctly paler; pubescence fine, sparse, dusky in color and quite inconspicuous. Head and prothorax closely granulate, elytra sparsely punctate at apex, the punctures becoming stronger, closer and somewhat asperate at base. Eyes moderate, their vertical diameter barely equal to half the width of the front in the male, and evidently less in the female. Joint 3 of antennæ but slightly if any longer than 2, but much narrower; 4 and 5 a little shorter than 3 and mutually nearly equal; 6, 7 and 8 shorter, each nearly or quite as wide as long, 7 a trifle longer than 6 or 8; 9 nearly equal to the six preceding in the male. In the female, joints 2-5 are subequal, 6 and 7 a little shorter and but slightly longer

than wide, 8 a little shorter still, 9 equal to the four preceding. Prothorax transverse as usual, sides nearly straight and a little convergent toward the front, margin moderately reflexed, front angles distinct, hind angles rounded, but much less broadly so than in *mollis*. Metasternum sparsely punctate, especially posteriorly. Middle coxæ contiguous. Length 2.4-3.6 mm.

California (Lake Tahoe); Arizona (Williams).

Described from about a dozen specimens collected by Dr. Fenyes, Barber and Schwarz, and the author.

12. **E. pallitarsis** n. sp.—Very similar in facies and structure to *nigrans*, but the sexes here seem to differ uniformly in color, all the males seen being black, and all females brown. The prothorax appears to be a little more ample and more distinctly transversely impressed, the sides more rounded, the surface simply punctate. The metasternum is more densely punctate than in *nigrans*, and the tarsi are rather less slender, and as a rule more abruptly pale. *Pallitarsis* is on the whole a rather larger and smoother species and is unique thus far in the different coloration of the sexes. Length 2.8-4.1 mm.

This species is represented by a good series from the Lake Tahoe region in California; Hood River, Oregon, and Easton, Washington.

13. **E. tristis** Lec.—Elongate, black, shining; tibiæ picescent, tarsi paler; pubescence sparse and fine. Eyes moderate, front about three times as wide as the longest diameter of the eye, and about four times the width of the eye. Antennæ half as long as the body, joints 2, 3 and 5 about equal in length, the second stouter, as usual; 4 and 7 a little shorter and subequal, 6 still shorter and only slightly longer than wide; 8 smallest, as wide as long; 9 a little shorter than the five preceding. Tarsi very slender; sixth ventral not notched or emarginate.

Veta Pass, Colorado; a single male specimen in the LeConte collection.

As compared with *nigrans*, *tristis* is much more shining, with smaller less prominent eyes, the seventh antennal joint much longer, about twice as long as wide (not much longer than wide in *nigrans*) and the ninth joint relatively shorter. The male of *pallitarsis* is also less shining than *tristis*, with closer punctuation and strongly transversely impressed prothorax (not at all impressed in *tristis*) and the eyes are much larger, and the ninth antennal joint longer.

14. **E. montanus** n. sp.—Elongate, pale brown, simply punctate throughout, pubescence grayish, moderately conspicuous. Eyes very large in the male, the front between them not wider than one and one-half times their diameter; in the female distinctly smaller, the front twice as wide as their vertical diameter. Antennæ (♂) with joints 2 and 4 nearly equal in length, the former much thicker and a little longer than wide; 3 fully one-half longer than 2 or 4, and a little longer than 5; 7, 6 and 8 progressively shorter than 4, the latter as wide as long or even slightly transverse; 9 about equal to the six preceding. In the female the rela-



tive lengths of the joints are nearly as in the male, but 6 and 8 are always evidently longer than wide, 9 as long as the four preceding. Prothorax a little less than twice as wide as long, the sides rather strongly rounded, margins moderately reflexed, disk more or less evidently transversely impressed at the middle from side to side, the impression most distinct laterally. Prosternum short before the coxæ; metasternum densely punctate. Length 3-4.2 mm.

Southern Sierras of California.

Abundant on pines in the San Bernardino Mountains. One specimen sent by Mr. Fuchs is labeled Tulare County. With the typical form I have placed a series taken by Barber and Schwarz at Williams, Arizona, which are so close to the types that there can be little doubt of their identity.

15. **E. filicornis** Lec.—Elongate, head and thorax black, opaque; elytra piceous or brownish piceous, shining. Punctuation of head and thorax fine, the surface scabrous but not distinctly granulate; elytral punctures moderate in size, simple, becoming sometimes subasperate toward the base. Pubescence very short, fine and sparse. Eyes very large and convex, the width of the front not much greater than the vertical diameter of the eye in the male and less than twice that diameter in the female. Third joint of antennæ a little longer than the second and subequal to the fourth and fifth, or to the sixth to eighth united; fourth to eighth all short, the fourth and fifth a little longer; sixth to eighth each as wide as or a little wider than long; ninth equal to the six preceding or nearly so. Prothorax less than twice as wide as long, sides moderately rounded and narrowly margined, front angles distinct, hind angles not defined, disk not distinctly impressed. Elytra evidently a little wider than the prothorax. Prosternum very short before the coxæ; metasternum opaque, sparsely punctate. Length 2.4-3 mm.

Occurs, but not commonly, in the Atlantic coast region from Massachusetts to Virginia.

The terminal joints of the palpi are less dilated outwardly in this species than in any preceding, the sides being nearly parallel. This form is nearly repeated in two of the following species—*luteipennis* and *granulatus*—and the reduction of the apical dilatation is carried still further, the joint becoming widest at or before the middle in *marginicollis*, *gentilis* and *trapezoides*.

16. **E. granulatus** Lec.—Moderately elongate, rufotestaceous, entire surface opaque or with the elytra feebly shining; the head, prothorax and base of the elytra granulate-reticulate, the latter becoming simply punctate posteriorly though often somewhat scabrous; pubescence very short and sparse, cinereous. Eyes very large and convex in the male, the front but little wider than their vertical diameter; distinctly smaller in the female, the front scarcely twice as wide as their vertical diameter. Joint three of antennæ just visibly longer than two and very nearly equal to four and five united; six and seven subequal and about as wide as long, eighth distinctly transverse, nine as long as the five (♀) or six (♂) preceding united. Prothorax as wide as the elytra at base, the sides

rather strongly rounded and finely margined; anterior angles distinct, posterior completely undefined; surface usually lightly transversely impressed at the middle. Prosternum very short before the coxæ; metasternum sparsely rather finely granulate. Length 2.3-4.3 mm.

Occurs along our entire Atlantic seaboard, but is evidently more common toward the south. The following localities are represented in the material before me. Massachusetts (Bowditch); New York; Pennsylvania; New Jersey; District of Columbia; Piney Point, Maryland; Ft. Monroe and Virginia Beach, Virginia; St. Catherine Islands, Georgia; Lake Mary, Enterprise and Tampa, Florida.

One specimen from Mandeville, Louisiana (National Museum collection) is a little aberrant, but is placed here provisionally; another labeled Kansas (Bowditch collection) is not separable from the eastern forms.

17. **E. opicus** n. sp.—Similar in color and form to *granulatus*; best described by comparison with that species. The elytra are distinctly scabrous and opaque throughout, the small granules reaching quite to the apex, the surface of duller lustre than the prothorax, which is plainly punctured, each puncture occupying the centre of a flattened rounded tubercle. In *granulatus* the elytra are more shining than the thorax, the latter granulate but not distinctly punctured. The pubescence is in *opicus* evidently longer and less sparse and fulvo-cinereous in color. The head is punctured like the prothorax. The antennæ are similar to those of *granulatus*, except that the fifth joint is much longer, being quite as long as the third. The prothorax is more widely margined and subexplanate at sides; the hind angles somewhat defined (not at all so in *granulatus*), the front margin sinuate immediately before the angles (straight in *granulatus*). In its exceedingly short prosternum before the coxæ and its sparsely granulate metasternum *opicus* agrees with *granulatus*. The last joint of palpi is distinctly dilated apically, scarcely so in *granulatus*, agreeing in this respect with the species placed at the head of the genus. Length  $3\frac{1}{2}$  mm.

Described from two perfectly identical females from Massachusetts (Blanchard), Marquette, Michigan (Hubbard and Schwarz).

The elytra are more conspicuously granulate than in any other species in our fauna, and the peculiar sinuation of the front margin of the prothorax just before the angles has not been observed elsewhere.

18. **E. luteipennis** Lec.—Rufotestaceous or brownish yellow; prothorax, especially in the male, more or less piceous, the margin frequently paler; under side darker, the legs pale or with the femora darker. Head and prothorax densely granulate-punctate and dull; elytra simply, more sparsely punctate, shining; pubescence gray, moderately well developed. Eyes not very large, a little smaller in the female; front about twice as wide as their vertical diameter

in the male, evidently more than that in the female. Joint three of the antennæ barely as long as two and nearly equal to four and five together, the latter two mutually equal; sixth to eighth subequal and scarcely as wide as long in the female, strongly transverse in the male; ninth nearly as long as all the preceding united in the male, and rather longer than the five preceding in the female. Prothorax less than twice as wide as long, narrowed in front, sides moderately rounded and somewhat explanate, hind angles wanting. Prosternum before the coxæ about as long as half the thickness of the coxa from front to back. Metasternum rather closely scabrous punctate. Length 2.5-4 mm.

Massachusetts, on pine boughs (Blanchard); New Jersey; District of Columbia; Odenton, Maryland; Ohio; White Fish Point, Lake Superior (Hubbard).

19. **E. tenuicornis** Lec.—Very similar to *luteipennis*, differing chiefly in its uniformly rufotestaceous color in both sexes, and in the narrower and longer three outer antennal joints, these being scarcely wider than the preceding joints (about twice as wide in *luteipennis*) and each subequal in length to all of them combined. The prothorax is rather more coarsely granulate than in *luteipennis* and the last palpal joint is a little more dilated externally. Length 3.5 mm.

The type of this species was taken at York, Pennsylvania; the few specimens before me are from Massachusetts (collections of Blanchard and Bowditch), where it occurs, but uncommonly on *Pinus rigidus*.

20. **E. marginicollis** Lec.—Moderately elongate, dark brown, punctuation simple or very nearly so throughout, rather close on the head and prothorax, sparser on the elytra; pubescence cinereous, unusually long and abundant with intermixed erect hairs. Eyes rather small but strongly convex, the front a little wider than twice their vertical diameter in the male and still wider in the female; front quite deeply transversely impressed along the epistomal suture. Terminal joint of palpi widest at or behind the middle and narrowing apically. Third joint of antennæ slightly longer than the second or fourth; sixth to eighth short, ninth as long as the five preceding in the male, a little longer than the three preceding in the female. Prothorax scarcely as wide as the elytra, less than twice as wide as long, sides nearly parallel or slightly convergent anteriorly, broadly rounded, margin rather wide, distinctly reflexed and serrulate along the edge; hind angles nearly as well defined as the front ones. Prosternum longer than usual before the coxæ, being evidently more than half the coxal diameter from front to back. Metasternum sparsely punctured posteriorly, more closely in front. Legs strongly narrowed or pedunculate at base. Length 2.25-5.2 mm.

Oregon, Vancouver, California.

The type is a male said to be from the first named locality, and with it in the LeConte collection is a female from Vancouver. All the specimens at hand are from the Middle California coast region, San Francisco, Alameda, Santa Clara and San Mateo Counties. A number of specimens in the series before me differ slightly from what

I consider the typical form, in the almost total absence of erect hairs and the more distinctly pedunculate legs, but agree so perfectly in the serrulate sides of the prothorax, deeply impressed epistomal suture and palpal formation that I am loath to consider them distinct. In all females of the assumed typical form the last ventral segment is bituberculate each side, but in variable degree. This character is not clearly evident in the Vancouver female, nor is it present in the varietal form mentioned above.

21. **E. gentilis** n. sp.—Strongly elongate, blackish brown, tarsi paler. Head and thorax rather densely granulate and dull, elytra with sparser simple punctures, which become subasperate at base; pubescence very short, fine and inconspicuous. Eyes small, their vertical diameter scarcely half (♂) or about one-third (♀) the width of the front. Terminal joint of palpi a little narrowed apically. Antennæ slender, ten jointed, joints two and three nearly equal in length, fourth and sixth subequal and shorter, fifth and seventh subequal and still shorter, rather wider than long; eighth a little longer than the four preceding in the female, more parallel and longer than the five preceding in the male. Prothorax not quite as wide as the elytra, sides moderately strongly rounded and a little reflexed, front angles more rounded than usual, hind angles scarcely defined. Prosternum moderate in length before the coxæ; metasternum not clearly punctate. Legs slender. Length 3 mm.

Easton, Washington (Koebele); North Bend, British Columbia (Schwarz).

This species agrees with the next only, in the 10-jointed antennæ, but it is quite normal in prothoracic structure, while that is decidedly aberrant.

22. **E. trapezoides** n. sp.—Very elongate, pale yellowish brown, head and under surface piceous brown; pubescence short, fine and sparse. Head across the eyes much wider than the prothorax, the eyes (♂) very large and convex, their vertical diameter about three-fourths the frontal width; epistomal suture impressed; surface alutaceous, rather sparsely subgranulately punctate. Last palpal joint widest behind the middle and narrowing apically. Antennæ 10-jointed, joints two, three and five about equal in length, four just visibly longer; six slightly shorter; seventh shortest but evidently longer than wide, eighth, ninth and tenth very narrow, linear, subequal, and each about as long as joints three to seven united. Prothorax evidently narrower than the elytra, trapezoidal in form, the sides not distinctly margined, straight and a little convergent anteriorly, hind angles sharply defined and nearly right, front angles a little obtuse, surface alutaceous and slightly scabrous but not distinctly granulate, a transverse median impression. Elytra finely simply punctate. Prosternum rather long before the coxæ. Legs very slender, first tarsal joint subequal to the next three. Sixth ventral strongly rounded and not at all emarginate at apex. Length 3-4 mm.

The type described above is a male, collected by Koebele in the Argus Mts. in southeastern California. There are also females from the same locality which are undoubtedly correctly associated with the males but which differ quite conspicuously in the much smaller eyes, larger thorax, this being distinctly wider than the head, and the shorter though parallel outer antennal joints. One of these females is entirely black, except the tarsi, but seems scarcely different otherwise. Several specimens taken at Brightons, Utah, by Hubbard and Schwarz, and one at Tallac (Lake Tahoe), California, by Dr. Fenyès, are nearly identical with the Argus Mountains female, though differing a little in the relative lengths of the antennal joints, and these together with a male from Ouray, Colorado (Wickham), which differs in a similar way from the type, are all placed here for the present. All these agree in the most essential characters; *viz.*, the 10-jointed antennæ, trapezoidal thorax with sharply defined hind angles, palpal formation and unusually long first tarsal joint.

**PARALOBIMUM** new genus.

Mentum transverse, trapezoidal; palpi slender, first joint very short, second and third longer than wide, a little dilated apically; terminal joint not wider than the preceding, widest near the base, elongate-acicular, not compressed. Labrum arcuate in front. Antennæ 11 jointed, three outer joints longer, intermediate joints serrate. Eyes large (♂), or moderate (♀). Prothorax not margined at sides. Elytra elongate, parallel; punctuation confused. Prosternum longer before the coxæ than the longitudinal diameter of the latter, with short intercoxal cusp. Mesosternum trapezoidal, oblique, not carinate or foveate in front. Metasternum declivous in front, median line sulcate posteriorly. Ventral segments one to four not very unequal, fifth longer, parabolically rounded. Front and middle coxæ very prominent, contiguous, hind coxæ moderately sulcate, coxal plates gradually wider internally. Legs long and very slender, tarsal joints one to four decreasing in length, first joint shorter than the next two together, the fourth fully twice as long as wide, not at all emarginate; fifth joint inserted at the apex of the fourth, very slender, linear, about as long as the third; claws simple.

1. ***P. mundum*** n. sp.—Elongate, parallel, piceous, rather densely clothed with short recumbent cinereous hair, with very short intermixed erect hairs which are only visible in profile. Head (♂) as wide as or a little wider than the prothorax; eyes large, strongly convex, their vertical diameter a little greater than half the width of the front; surface densely, finely scabrous, punctate and dull. Antennæ about four-fifths as long as the entire body, first joint elongate-oval; second short, rounded; third to eighth strongly acutely serrate, the third as wide as long, the following joints gradually longer, the eighth twice as long as wide; ninth to eleventh longer, linear, slightly increasing in length, the eleventh about equal to the seventh and eighth united. Prothorax about one-third wider than long, base broadly arcuate and a little wider than the apex, sides feebly rounded, surface dull and densely punctulate, the sculpture indistinct, because of the pubescence. Elytra obviously wider than the prothorax and four times as long, finely, densely punctulate, with sparser scattered coarser punctures. The pubescence in well preserved specimens is condensed in four narrow longitudinal lines between which the surface is vaguely subsulcate. Beneath punctured and pubescent as above but without the erect hairs. Length 4.5–6 mm.

California, Redondo and Santa Monica.

This species frequents the sand dunes overlooking the ocean and is probably not rare. I have taken it from March to June in the salt vats at Redondo, into which the insect had fallen while flying about at night. All the specimens seen thus far with a single exception in Dr. Van Dyke's collection are males. This solitary female differs from the male in its smaller eyes, in the head being distinctly narrower than the prothorax and in its shorter less strongly serrate antennæ; these being barely half as long as the body, the intermediate joints feebly obtusely serrate. The three outer joints decrease slightly in length instead of increasing as in the male, a quite remarkable character. The prothorax is also more nearly equal to the elytra in width and the last palpal joint is less acutely pointed.

#### ANOBIINI.

This tribe includes those genera in which the head is received in repose on the under surface of the prothorax, which is distinctly excavated for its reception. The mandibles do not reach the metasternum, the trunk is never excavated for the legs, and the contractile power is therefore far less developed than in the following tribes. The form is always parallel and at least moderately elongate. Our genera may be separated by the following table:

Anterior coxæ contiguous or narrowly separated, the prosternal process cuspidiform, becoming laminate posteriorly (except in *Oligomerus sericans* and *O. tenellus*).....2.



- Anterior coxæ distinctly or even widely separated, the prosternal process parallel, the antennæ usually received between the coxæ in repose.....7.
2. Last three joints of antennæ much elongated.....4.
- Last three joints of antennæ not conspicuously longer.....3.
3. Antennæ rather feebly serrate in both sexes.....**Actenobius.**
- Antennæ pectinate in the male, serrato-pectinate in the female.

**Euceratocerus.**

4. Side margin of prothorax entire, joints of antennal stem usually short, not distinctly serrate or pectinate, tarsi less slender.....5
- Side-margin of prothorax obliterated anteriorly, antennal stem serrate or pectinate; tarsi slender, the third and fourth joints not emarginate, the articulation strictly terminal.....**Xeranobium.**

5. Middle coxæ distinctly separated; third and fourth tarsal joints emarginate (except in *Oligomerus tenellus*); elytra punctate-striate.....6.

    Middle coxæ approximate; third joint of tarsi not emarginate; elytra with indistinct or feebly defined rows of punctures....**Oligomerodes.**

6. Last joint of both labial and maxillary palpi elongate, fusiform; front coxæ contiguous (except in *sericans* and *tenellus*); antennæ 9-, 10-, or 11-jointed.....**Oligomerus.**

    Last joint of maxillary palpi parallel and obliquely truncate; last joint of labial palpi broadly triangular; front coxæ distinctly separated; antennæ 11-jointed.....**Sitodrepa.**

7. Antennæ serrate, joints 9-11 not conspicuously longer.....18.
- Antennæ not serrate, 9-11 long.....8.

8. First two ventral segments connate, the suture obliterated at middle; prothorax without side margin, except toward the base.....**Gastrallus.**

    First ventral suture distinct; side margin of prothorax entire, except in *Hadrobregmus defectus*.....9.

9. Antennæ not pectinate in either sex.....10.
- Antennæ pectinate in the male.....**Ctenobium.**

10. Claws with a broad basal tooth.....11.
- Claws not toothed.....12.

11. Thighs rather strongly clavate.....**Ptinodes.**
- Thighs not or but feebly clavate.....**Trichodesma.**

12. Vestiture relatively dense, the upper surface and legs with intermixed longer erect hairs.....13.

    Vestiture sparser and completely recumbent.....14.

13. Metasternum not excavated in front; outer apical angle of tibiæ not everted.

**Nicobium.**

    Metasternum moderately deeply excavated in front; outer apical angle of front and middle tibiæ acutely produced.....**Anobiopsis.**

14. Ventral segments free, sutures distinct, tarsi narrower.....15.

    Ventral segments connate; sutures, except the first, faint or obliterated at middle, tarsi stouter.....17.

15. Metasternum not deeply excavated anteriorly, at most a little concave....16.
- Metasternum deeply excavated in front.....**Anobium.**

16. Third ventral segment short, tibiæ not produced externally at apex.

**Hadrobregmus.**

    Third ventral segment long, tibiæ produced externally at apex.

**Microbregma.**



17. Metasternum deeply excavate in front; ventral punctuation annulate.

**Cœlostethus.**

18. Metasternum deeply abruptly excavate; ventral segments connate, the punctures annulate; elytra punctate-striate.....**Trypopitys.**

Metasternum moderately deeply, less abruptly excavated; ventral segments free, punctuation simple; elytra irregularly punctate.

**Colposternus.**

### **ACTENOBIOUS** new genus.

This name is proposed for a small number of Californian species which strongly resemble a very slender *Oligomerus*—notably *O. sericans*—but differ radically in antennal formation, these organs being rather feebly serrate, with joints 3–10 of nearly equal length; second joint short, oval; eleventh nearly linear, a little longer than the tenth. The palpi are nearly as in *Oligomerus sericans*, the first joint short; second and third obconical, the former more elongate, the latter about as wide as long; terminal joint elongate, pointed. The prosternum is rather short before the coxæ, the front and middle coxæ contiguous. Tarsi distinctly narrower than in *Oligomerus*, the first joint as long as the next three or very nearly so, second joint equal to the third and fourth united, the latter short and feebly or scarcely emarginate at apex; last joint about twice as long as wide, moderately dilated apically. The pubescence is very short, moderately inclined; the elytra feebly striate-punctate. First, second and fifth ventral segments nearly equal, third and fourth subequal but a little shorter.

The only other genera in this tribe having somewhat similar antennæ are *Trypopitys* and *Colposternus*, but they are not otherwise allied very closely, the front and middle coxæ being widely separated and the metasternum excavated in front. *Euceratocerus* is, however, very closely related in most respects, except antennal formation; indeed, the three species for which the present genus is established were referred by Casey to that genus.

As only a single species is known to me the following table is necessarily based on Casey's descriptions:

Pleural sulcus below the humeri deep and strongly marked; eyes separated by more than three times their own width ..... 1. **pleuralis.**

Pleural sulcus narrow and feeble.

Elytra fully twice as long as wide; eyes small, separated by fully four times their own width ..... 2. **macr.**

Elytra much shorter, three-fourths longer than wide; eyes more convex and better developed, separated by three times their own width.

3. **saginitus.**

1. **A. pleuralis** Casey.—Elongate, parallel, moderately convex, piceous brown, antennæ and feet paler; pubescence very fine, short, moderately inclined, not obscuring the surface color. Head distinctly narrower than the prothorax, eyes moderate; antennæ (fig. 28) scarcely half the length of the body; second joint short, oval, third to tenth elongate-triangular, varying from one and one-half to two and one-half times as long as wide; increasing slightly in length outwardly and evidently more slender in the male; surface rather dull, moderately closely punctate. Prothorax transverse, sides feebly arcuate and a little convergent toward the front; margin narrow and finely serrulate, front angles distinct and nearly right, hind angles broadly rounded; surface smooth, without punctures but numerous granulate; median line impressed in front, obviously but not strongly compresso-carinate behind. Elytra not wider than the prothorax and four times as long; feebly punctate-striate, the punctures becoming obsolete near the apex. Beneath finely punctate and pubescent. Length 3-5.2 mm.

California (Santa Cruz Mts., Pomona and Pasadena), occurring in the spring on live oaks.

The sexual differences appear to be confined to the slightly longer, male antennæ.

The above description was written before discovering that what is undoubtedly the same species had been previously described by Casey under *Euceratocerus*. I have substituted Casey's name and will let the description stand. Since *macr* and *saginitus* are unknown to me, I can only transcribe the original descriptions and also add that of *pleuralis* for purposes of comparison. It is more than likely that the three names cover only a single species.

“**Euceratocerus pleuralis**” Casey.—“Pleural sulcus below the humeri deep and strongly marked; elytra twice as long as wide; eyes separated by evidently more than three times their own width. Body rather stout, the elytra subdilated near the tip, blackish piceous above, the legs and antennæ dark rufous or rufopiceous; surface feebly shining, the pubescence extremely short, pale, dense and conspicuous on the elytra. Head short, inserted to the eyes, dull, the epistomal impression well marked. Prothorax three-fifths wider than long, rounded at apex, the sides thence strongly diverging and feebly sinuate, becoming parallel and broadly rounded in basal half; basal angles rounded. Elytra twice as long as wide, more than three times as long as the prothorax and fully as wide, a little wider at apical third; humeral angles rounded. Length 3.7-4.5 mm.; width 1.3-1.7 mm.

“California—Santa Cruz Mts.”

2. **A. macr** Casey.—“Elytra fully twice as long as wide; eyes small, separated by fully four times their own width. Body very slender, nearly as in *pleuralis* but narrower, the elytra not distinctly wider behind and fully three and one-half times as long as the prothorax, the latter nearly similar in outline but still more transverse, the sides becoming parallel in less than basal half, with the median line similarly finely impressed anteriorly. Length 2.9 mm.; width 1.0 mm.

“California—locality not indicated.”

3. **A. saginatus** Casey.—“Elytra much shorter, three-fourths longer than wide; eyes more convex and better developed, separated by three times their own width. Body suboblong, moderately convex, dull, blackish, almost similar throughout to *pleuralis* but shorter, the prothorax relatively rather smaller and the elytra much shorter, not distinctly dilated subapically, and with the minute subgranuliform rugulosity still finer, and the pubescence a little denser, the fine striae distinct to summit of the convex declivity. The hind tarsi are longer than in *pleuralis*. Length 3.4 mm.; width 1.25 mm.

“California—locality not indicated.”

#### **EUCERATOCERUS** LeConte.

Elongate, cylindrical, a little depressed, clothed with very short, fine grayish pubescence; elytra finely and feebly striate-punctate. Terminal joint of palpi elongate, pointed, a little dilated at middle. Antennæ pectinate in the male, serrato-pectinate in the female. In other respects and indeed in some of those mentioned above this genus is substantially identical with *Actenobium*. The basal joint of tarsi and the first ventral segment are a trifle shorter in *Euceratocerus*, but the difference is not very noticeable.

1. **E. hornii** Lec.—Elongate, parallel, piceous brown, antennæ and feet only slightly paler; pubescence very short, moderately plentiful but not dense. “Antennæ (♂, fig. 29) longer than half the body, the first joint nearly as long as the third, second small, third and following subequal, about three times as long as wide, each with an oblique basal process longer [than] and as broad as the joint itself, except that of the second, which is shorter and broader.” Head and prothorax finely subgranulate and dull, the latter as wide as or slightly wider than the elytra at base, disk a little more prominent at middle posteriorly; sides distinctly but not widely margined, the margin finely serrulato-crenulate, hind angles quite broadly rounded. Elytra with fine, feebly punctate striae. Tarsi slender and as long as or slightly longer than the tibiae. Length 4 mm.

Texas. Type collected by Belfrage.

With the type in the LeConte collection is a second specimen—evidently a female—which differs from the male type in being entirely black, the antennæ and feet not paler; prothorax with narrower side margin which is scarcely or very feebly crenulate; the hind angles less broadly rounded, thus giving the thorax a more quadrate appearance; tarsi apparently less slender, the second joint more evidently shorter than the first, the whole tarsus barely as long as the tibia. This second specimen is mounted in typical Belfrage style and is doubtless from the same source as the type. It seems best therefore to regard the two as sexes of the same species at least for the present.

A male specimen collected near Cincinnati by Mr. Dury is closely allied to the black female above mentioned, but the prothorax is somewhat smaller and shorter relatively to the elytra, the color dark brown, the antennæ pale. It is quite likely distinct, but I am unwilling to describe it without seeing both sexes.

### **XERANOBIUM** new genus.

Elongate, subcylindrical insects, of large size for the group, densely clothed with ashy-gray recumbent hair. The terminal joint of both maxillary and labial palpi is elongate fusiform, not wider than the penultimate, the latter nearly as wide as long in the maxillary, but slender and as long as the terminal joint in the labial palpi. Antennæ rather short, less than half the length of the body, the three outer joints elongate, the stem distinctly serrate or pectinate. Prothorax nearly equal in width to the elytra, the hind angles rounded and undefined, side margin acute posteriorly, completely obliterated in front. Elytra confusedly punctate or finely scabrous. Front and middle coxæ contiguous, the prosternum long before the coxæ; ventral segments 1, 2 and 5 subequal; 3 and 4 a little shorter, the fourth slightly shorter than the third. Tarsi slender, the third and fourth joints not emarginate, fifth joint elongate, linear, claws with a small but evident subbasal angulation.

The four species included in this genus inhabit the dryer regions of the southwestern parts of our country. None of them are as yet surely known in both sexes, and therefore the antennal structure cannot be completely defined.

First joint of hind tarsi fully one-third longer than the second, fourth joint twice as long as wide; form more slender.

Sides of prothorax parallel as viewed from above; head (♂) a little wider than the prothorax, antennal stem strongly ramose. . . . .1. **laticeps**.

Sides of prothorax rather strongly rounded, widest near the middle, head (♀) subequal in width to the prothorax . . . . .2. **macrum**.

First joint of hind tarsi only slightly longer than the second, fourth joint but little longer than wide; form more robust; head (♀) very distinctly narrower than the prothorax.

Elytra vaguely quadricostate; size larger. . . . .3. **cinereum**.

Elytra not at all costate; size smaller. . . . .4. **desertum**.

1. **X. laticeps** n. sp.—Cylindrical, feebly depressed, brown; body throughout and legs clothed with dense, short, closely appressed cinereous hair. Head large, the eyes very large and more prominent than the sides of the prothorax; front finely scabrous, with scattered punctures, and one and one-half times as wide

as the vertical diameter of the eye. First joint of antennæ (fig. 23) moderately stout; second short, angulate internally; third to eighth ramose, the processes increasing in length from the third to the sixth joint, that of the latter being about double that of the third joint, and subequal in length to the ninth; ninth joint about as long as the five preceding united, the apical angle acute; tenth similar to, but slightly shorter than the ninth; eleventh a little longer and very slender. Prothorax three-fourths as long as wide, sides nearly straight and parallel as viewed from above; base truncate, feebly subsinuate each side; apex moderately areolate; side margin obliterated anteriorly; surface finely punctulate and with scattered coarser punctures. Elytra equal in width to the prothorax and a little more than three times as long; finely scabrous apparently, but the sculpture is almost perfectly concealed by the pubescence, and with faint traces of longitudinal sulci. Prosternum longer before the coxæ than the longitudinal diameter of the latter. Last ventral segment rather broadly evenly rounded at apex. Length 6.5 mm.

Tucson, Arizona (Hubbard and Schwarz).

The type and only specimen is a male in the National Museum collection.

2. **X. macrum** n. sp.—Similar to the preceding, but with the elytra relatively more elongate, four times as long as the prothorax and more distinctly subsulate. The head is subequal in width to the prothorax, the front a little less than twice as wide as the vertical diameter of the eye; prothorax three-fourths as long as wide, with distinctly arcuate sides. The antennæ (fig. 21) are about two-fifths as long as the body, the three outer joints forming about half its length. First joint stout, second much smaller but longer than wide, third longer than the second and feebly prominent internally, fourth to eighth serrate, the fourth and eighth evidently longer than wide, fifth to seventh as wide as long; ninth equal in length to the three preceding together, tenth similar to the ninth but just visibly shorter, eleventh slightly longer and narrower. As in *laticeps* the prosternum is very long before the coxæ. Last ventral evenly rounded at apex. Length 7.75 mm.

California (Riverside).

The unique type is a female taken by me at electric light in June.

3. **X. cinereum** Horn.—Similar in form and vestiture to *desertum*. Head a little narrower than the thorax. Joints 3-8 of antennæ (fig. 24) pectinate, the processes subequal in length to the joints. Elytra vaguely quadricostate. Last ventral segment broadly feebly emarginate from side to side. Length 9 mm.

This species was described from a unique taken in "Southwestern Texas near the Rio Grande." It was referred by its author to *Otenobium*, doubtless because of the pectinate antennæ, but the description, while somewhat unsatisfactory, pointed toward the present genus, and inquiries kindly answered by Dr. Skinner and a subsequent examination of the type by myself verified this conclusion.

The relation of *cinereum* to its congeners is, however, still problematical. If the specimen be really a male as supposed by Horn, and the pectinate antennæ would seem to indicate this, then it is perhaps identical with *desertum*, all known examples of which are apparently females. All these latter are, however, considerably smaller than the Texas male, and are known from the California deserts. They show scarcely a trace of the evident though vague elytral costæ of *cinereum*. If, on the other hand, the type of *cinereum* be a female it must be that of *laticeps*—if of any here made known, the pectination of the antennæ of the latter being much longer. The emarginate last ventral of *cinereum* is of doubtful signification. Usually this is a male character, but in *laticeps*, which is unquestionably a male, this segment is evenly rounded behind, and moreover the last ventral of *cinereum* is fringed internally with capitate hairs, very similar in structure to those which I have previously referred to\* in the females of *Chalcolepidius*, *Tragidion*, etc. A character of this sort would be expected to prevail throughout a genus, but there is no trace of such hairs in other females of *Xeranobium*. In view of these uncertainties I have thought best that each of these forms should stand with a name of its own, until fresh material of both sexes shall enable us to solve the puzzle.

4. **X. desertum** n. sp.—Similar in color and vestiture to *laticeps* and *macrum*, but evidently more robust than either. The antennæ (fig. 22) are rather shorter than in *macrum*, being scarcely more than one-third as long as the body, but are similar in structure. The head is distinctly narrower than the prothorax, the front twice as wide as the longest diameter of the eye. The prothorax is relatively wider than in the two preceding species, being approximately two-thirds as long as wide, with the sides moderately rounded, the base and apex subequal in width. Elytra slightly more than three times as long as wide, the sutural margins divaricate from apical fourth or fifth; surface throughout apparently finely scabrous and dull, the head with minute scattered polished granules. The prosternum is not so long before the coxæ as in the two preceding species, the length being scarcely greater than the thickness of the coxa. Last ventral segment very broadly but evenly rounded at tip. Length 7-7.5 mm.

California, Salton, two females (Hubbard); Mojave, one female; Needles, one female (Wickham).

The Salton specimens, which are to be regarded as types, were bred from stems of *Allenrolfea occidentalis* sent to Washington by Mr. Hubbard. Mr. Schwarz refers them † to *Ctenobium cinereum*

\* Ent. News, IX, p. 239, Dec. 1898.

† Proc. Wash. Ent. Soc., IV, p. 377.



Horn, but I have already given reasons for doubting the accuracy of this reference.

The Mojave and Needles examples are probably identical with the Salton ones, but they show certain small differences which may indicate a distinct though very closely allied species. In them the antennal stem is rather less distinctly serrate and the club is a little narrower; the elytra are also scarcely divaricate at apex. In the Needles specimen there are very faint indications of elytral sulci, but there is not the slightest indication of these in the others.

### **OLIGOMERODES** new genus.

This genus is established with some reluctance for two species lying between *Xeranobium* and *Oligomerus*, the homogeneity of neither of which I am willing to disturb by the introduction of the species in question. From *Xeranobium* the present genus is distinguished by the entire prothoracic side margin, the slightly (*occidentalis*) or distinctly (*catalinae*) emarginate fourth tarsal joint, the feebly serrate antennal stem, the compressed terminal palpal joint with more strongly rounded interior margin, the relatively shorter and narrower penultimate joint of the labial palpi, the more or less evident elytral striæ, and the much less dense pubescence. From *Oligomerus* it differs notably in the more slender tarsi, the third joint not at all emarginate, the terminal joint narrow and elongate, and in the approximate middle coxæ. The two species resemble the larger more elongate species of *Xyletinus*. They differ considerably from each other in antennal and tarsal formation and may thus be readily separated:

Intermediate joints of antennæ elongate, the ninth barely as long as the two preceding united in either sex, the three outer joints together much shorter than 1-8 united; basal joint of hind tarsi equal to the next two, fourth joint slightly emarginate; elytral striae distinctly punctured .....1. **occidentalis**.

Intermediate joints of antennæ much smaller, the ninth evidently longer than the two preceding united in the ♀, and as long as the five preceding in the ♂; three outer joints as long as (♀) or much longer (♂) than 1-8 united; basal joint of hind tarsi as long as the next three, fourth joint rather deeply emarginate or bilobed; elytral striae feebly or scarcely punctured.....2. **catalinae**.

1. **O. occidentalis** n. sp.—Cylindrical, a little depressed, brown; pubescence short, appressed, ashy in color, plentiful, but not concealing the surface sculpture. Head not visible from above in repose, three-fourths as wide as the



prothorax, with the front a little more than twice as wide as the vertical diameter of the eye in the female; but little narrower than the prothorax, with the front less than twice as wide as the vertical diameter of the eye in the male. Antennæ (fig. 25) in the female less than half the length of the body; joints 3-8 rather feebly serrate, all longer than wide, the fourth, sixth and eighth a little more elongate than their fellows; the eighth longest and about three times as long as wide; 9-11 each about one-third longer than the eighth and together much shorter than 1-8 combined. In the male the antennæ are half as long as the body, joints 3-8 a little longer than in the female, but preserving the same relative lengths; ninth joint almost twice as long as the eighth; tenth and eleventh subequal in length, but more slender. Prothorax as wide as the elytra, about two-thirds as long as wide, sides very feebly convergent anteriorly, side margin narrow but entire, front angles right, hind angles undefined, the sides rounding into the base. Elytra nearly four times as long as the prothorax and more than twice as long as wide. Entire surface finely densely punctulate, the head with sparse coarser punctures, which are replaced by small granules posteriorly; prothorax with numerous minute scattered polished granules; elytra feebly striate, the striæ finely punctate. Prosternum before the coxæ as long as the thickness of the coxa. Fifth ventral segment rounded at apex in both sexes. Length 5½-6 mm.

California. Yuba and San Luis Obispo Counties (Fuchs); Pasadena (Fenyès); Los Angeles County (Koebele); Poway, San Diego County (Blaisdell).

2. ***O. catalinae*** n. sp.—Closely similar to the preceding species in size, form and color, but with the pubescence less abundant and more condensed along the interspaces of the elytra, which appear vittate in consequence, though not very conspicuously so. Front very little wider than the vertical diameter of the eye in the male, but nearly or quite twice as wide in the female. The intermediate antennal joints (fig. 26) are shorter than in *occidentalis*, 4-8 being each sensibly as wide as long; 9-11 linear and very elongate in the male, the ninth as long as the five preceding, the three together much longer than 1-8. In the female (fig. 27) the ninth joint is a little longer than 7 and 8 combined, and as usual of broader form than in the male. The sculpture is substantially as in *occidentalis*, except that the elytral striæ or sulci are still more feebly punctured, in some specimens scarcely visibly so, except near the margin. Length 4.7-5.8 mm.

California, Santa Catalina Island.

This species occurred in some numbers in July, by beating the branches and foliage of *Heteromeles arbutifolia* on the hills back of Avalon. I have not thus far seen it in any other collection.

### **OLIGOMERUS** Redtenbacher.

Body elongate, cylindrical, slightly depressed, with rather sparse or moderately abundant pubescence, intermixed in some species with very short erect hairs. Head rather strongly deflexed; eyes round, moderate in size, larger as usual in the male. Palpi with

terminal joint elongate-oval or subfusiform; pointed, feebly compressed; penultimate joint of maxillary palpus short, subtriangular, nearly as wide as long; of labial palpus more slender, feebly widened externally. Antennæ 9, 10-, or 11 jointed, the stem not at all serrate, the three or four joints preceding the club very short; last three joints much wider and together longer than all the preceding, longer and relatively narrower in the male. Prothorax with entire side margin, which is finely somewhat irregularly serrate; front angles distinct, nearly right; hind angles broadly rounded and ill defined; disk more or less elevated posteriorly, the elevation usually somewhat compressed laterally. Surface of head and thorax finely granulate; elytra punctate-striate, the lines of punctures sometimes a little irregular. Prosternum scarcely as long before the coxæ as the coxal diameter, the coxæ usually contiguous or nearly so, the intercoxal process acute, becoming laminate posteriorly except in *sericans* and *tenellus*, in which it is wider and the coxæ not contiguous. Middle coxæ narrowly but evidently separated. First, third and fourth ventral segments nearly equal and shorter than the second and fifth. Basal joint of tarsi subequal to the three following; third and fourth joints emarginate above for the insertion of the joint following, except in *tenellus*, in which the fourth only is very feebly emarginate.

The relation of *Oligomerus* to allied genera is sufficiently well indicated in the table of genera. The number of antennal joints does not here constitute a generic character, unless the instability itself be so considered; in fact the number seems to vary individually in one species (*obtusus*). In a series of twenty-three specimens not otherwise separable, ten have the antennæ 11-jointed, twelve have them 10-jointed, and in the remaining example one antenna is 10 and the other 11 jointed. In the 10-jointed antenna the fourth joint is about equal in length to the third, and usually shows a more or less evident constriction or impression, and in some examples this pseudo division is so distinct that it is very difficult to say whether the organ contains ten or eleven joints. When the division is complete the fourth joint is left evidently shorter than the third. In those species with 9 jointed antennæ I have observed no tendency to variation, though it may possibly occur, nor does there appear to be any in *sericans*. Of the two European species *brunneus* has 10-jointed and *reyi* 11-jointed antennæ. I do not know whether any

individual variation in the number of joints has been observed in these species.

Our species of *Oligomerus* seem as a rule to be rather rare, and few collections contain all told more than half a dozen specimens. In the LeConte collection there are 5 *sericans*, 2 *obtusus*, 1 *alternans* and 1 *brevipilis*: in the Horn collection 2 *sericans*, 1 *obtusus* and 2 *alternans*. Mr. Blanchard writes me that he has 2 *sericans* and 4 *alternans*, all taken about thirty years ago. The Hubbard and Schwarz collection contains all the species, but in the material sent me there are only twelve examples, a number, however, greater than any other collection offers. The material before me numbers between sixty and seventy specimens, in which six species seem to be clearly indicated. Of these, *sericans* and *tenellus* are evidently aberrant. The species may be distinguished as follows:

Front coxæ distinctly separated, intercoxal process wider, not laminate posteriorly.

Antennæ 9-jointed, disk of prothorax distinctly gibbous, pubescence entirely reclinate .....1. **tenellus**.

Antennæ 10-jointed, disk of prothorax scarcely gibbous, pubescence of head and thorax erect... .....2. **sericans**.

Front coxæ contiguous or virtually so, intercoxal process laminiform posteriorly, disk of prothorax more or less distinctly gibbous.

Antennæ 10-jointed, pubescence short, sparse and perfectly recumbent; elytral striæ finely punctate; intermediate joints of antennæ distinctly longer than wide, ninth joint a little longer than the three preceding in the female .....3. **californicus**.

Antennæ 10- or 11-jointed; pubescence entirely recumbent without trace of erect hairs; elytral striæ more coarsely punctate; intermediate joints of antennæ very short and transverse, the ninth joint equal to the five preceding in the female.....4. **obtusus**.

Antennæ 9-jointed.

Recumbent pubescence of upper surface with intermixed short erect hairs.

5. **brevipilis**.

Surface without evident erect hairs; alternate elytral interspaces more elevated in typical examples, but frequently scarcely at all so.

6. **alternans**.

1. **O. tenellus** n. sp.—Very elongate, moderately depressed, red-brown, pubescence very short, reclinate. Antennæ 9-jointed, joints 2 and 3 subequal, narrower than the first and nearly two-thirds as long; 4-6 subequal, a little shorter, and more slender than 3, all distinctly longer than wide; 7 and 8 similar, each very slender and nearly as long as the five preceding, 9 longer, filiform. Front slightly less than twice as wide as the vertical diameter of the eye. Prothorax similar in form and sculpture to *obtusus*, the disk distinctly gibbous. Elytra four times as long as the prothorax, fully two and one-fourth times as long as wide; very feebly striate punctate. Prosternum before the coxæ but

little more than half as long as the longitudinal thickness of the latter. Tarsi slender, the first joint equal to or slightly longer than the next two; third joint not at all, fourth very feebly emarginate at tip. Length 2.8 mm.

Williams, Arizona, July 22nd; collected by Barber and Schwarz. A single specimen, probably a male, is all I have seen of this neat little species. It differs from typical *Oligomerus* in its more slender tarsi with third and fourth joints not or scarcely emarginate and in its distinctly separated front coxæ, but it agrees nearly with *sericans* in this latter respect.

2. *O. sericans* Melsh.—Piceous brown, head and thorax shining with small scattered granules; elytra finely scabrous, punctate-striate, the inner rows of punctures irregular and more feebly impressed, a few minute granules in the basal region. Head and prothorax with short erect fuscous hair, elytra similarly clothed, but the hairs distinctly inclined. Vertical diameter of eye a little greater than half the width of the front in the ♂, less than half the width of the front in the ♀. Antennæ scarcely half the length of the body, first joint elongate, not much thickened, a little bent; second oval or elliptical, about half as long as the first and narrower; third and fourth still shorter, subequal or with the third a little longer; fifth to seventh similar to each other, very short, transverse; eighth to tenth about equal in length, twice as wide as the preceding and each as long as 2-7 united in the ♀, still longer and more parallel in the ♂. Beneath finely punctate and pubescent. Length 3-4.5 mm.

Massachusetts, New York, Pennsylvania, District of Columbia, Virginia, Ohio, Kentucky, Michigan, Minnesota, "Canada."

Two examples in the LeConte collection are labelled "June 24 Carya" and "June 24 White Oak."

3. *O. californicus* n. sp.—Slender, subcylindrical, brown; antennæ slender, all the joints longer than wide; second, third and fourth subequal in length, the second a little stouter; sixth a little shorter; fifth and seventh again slightly shorter and subequal; ninth joint a little longer than the three preceding, elongate-triangular, the apical angle obtuse. Prothorax rather strongly elevated and compressed posteriorly, a feeble channel from the summit of the elevation to the front margin; surface finely granulate. Elytra not wider than the prothorax, feebly striate, the striæ finely punctate, the rows of punctures somewhat irregular near the suture. First joint of tarsi as long as the next three, fourth very feebly, third scarcely at all emarginate at tip. Length 4 mm.

California (Sisson).

Described from a single female specimen in the Hubbard and Schwarz collection.

This is the only species thus far discovered in the true Pacific Coast region. In its slender antennal stem and almost unemarginate fourth tarsal joint it agrees with the Arizonan *tenellus*.

4. **O. obtusus** Lec.—Elongate, usually red-brown, but sometimes darker, pubescence recumbent. Head and prothorax more thickly granulate than in *sericans*, thoracic disk moderately gibbous. Elytral striae regular or very nearly so. Front only about one-third wider than the vertical diameter of the eye in the female. Ninth joint of antennae equal to the five preceding in the female, nearly as long as all preceding in the male. Length 4.8-7.2 mm.

The following localities are represented in the material at hand or are reported on good authority: Eastern Massachusetts, Vermont (type), New York (Staten Island, Long Island, Albany, Buffalo); Pennsylvania (Manayunk); New Jersey; District of Columbia; Canada (Toronto); Mich. (Grand Ledge); Ohio (Cincinnati).

This appears to be the species most often taken by collectors. It resembles considerably the larger specimens of the more common *Hadrobregmus carinatus*, but is rather stouter with larger thorax, and may of course be distinguished at once by the approximate front coxae.

5. **O. brevipilis** n. sp.—Dark brown, upper surface with very short erect hairs which are numerous on the head and thorax, sparser on the elytra, and only distinctly visible when viewed in profile. Antennae 9-jointed, joints 2-6 decreasing in length, the second scarcely half as long as the first; the sixth very small, narrower than the fifth and evidently transverse; seventh joint (♀) not quite as long as the five preceding, scarcely more than twice as long as wide, its inner margin rather strongly arcuate. Front rather more than twice as wide as the vertical diameter of the eye. Otherwise nearly as in *obtusum* and *alternans*. Length 5-6.75 mm.

Anglesea, New Jersey; Washington, D. C.; Ft. Pendleton, West Virginia; Michigan.

Single examples from each of the above localities are before me. Unfortunately all are females, but I have no hesitation in separating it from *alternans* to which it is most closely related, because of the erect hairs of the upper surface, the smaller eyes and wider front, and the shorter and wider seventh antennal joint when compared with the same sex of *alternans*.

6. **O. alternans** Lec.—Blackish brown, occasionally paler, upper surface without erect hairs, alternate elytral intervals in typical examples more convex, but this character is evanescent and totally fails in some examples which are not otherwise separable. Disk of prothorax a little more strongly elevated and more compressed than in our other species. Eyes of female larger than in *brevipilis*, the front less than twice as wide as the vertical diameter of the eye; eyes still larger in the male. Sixth joint of antennae not obviously narrower than the fifth; ninth joint (♀) nearly three times as long as wide, as long as the five preceding, the inner margin straighter than in *brevipilis*. Otherwise nearly as in *brevipilis*. Length 4.4-6 mm.

The following localities are represented in the specimens at hand: New Jersey; Pennsylvania; Canada; Washington, D. C.; Kansas (Onaga). It is recorded from Pittsburg and Cincinnati by Hamilton and Dury respectively. "Mass." (Blanchard).

One example from Grand Ledge, Mich. (Hubbard and Schwarz), is small, red-brown, and very different in appearance from typical *alternans*, but the gap is so nearly filled by intermediates that I have not thought it safe to separate it without further evidence.

#### **SITODREPA** Thomson.

Oblong, moderately robust, pubescence rather long and somewhat bristling. Head much narrower than the prothorax, eyes only moderate in size and not very strongly convex, the front more than twice as wide as their vertical diameter. Last joint of maxillary palpi moderately elongate, gradually dilated apically and obliquely truncate, preceding joints small and narrow; last joint of labial palpi broadly triangular, the apex nearly squarely truncate and slightly sinuate. Antennae less than half as long as the body, 11 jointed, first joint elongate, but rather stout, second similar but much smaller, third to eighth small, third, fifth and seventh evidently larger than the fourth, sixth and eighth; ninth about equal to the five preceding and rather more than twice as wide, tenth and eleventh subequal in length and width to the ninth; the three united much longer than all the preceding. Prothorax as wide as the elytra, the latter finely striate, striae finely punctate. Prosternum rather short before the coxae, which are distinctly separated by the triangular intercoxal process; middle coxae separated. First, third and fourth ventral segments subequal, second longer, fifth still longer and nearly equal to the third and fourth united. First tarsal joint subequal to the next two, fifth joint stout, a little longer than wide, but not narrower at base. The tibial spurs are very small and difficult to see.

This genus contains only the cosmopolitan *panicea*, which has been everywhere diffused in various organic commercial products, both animal and vegetable. It is so well known as to need only a brief description.

1. **S. panicea** Linn.—Reddish brown, with abundant rather long and somewhat bristling pubescence. Prothorax a little narrowed from the base, side margin narrow in front, slightly explanate posteriorly, finely serrate; front angles somewhat rounded, hind angles broadly rounded, disk scarcely elevated poste-

riorly, surface sparsely granulate. Elytra finely punctate-striate; intervals with a single line of punctures bearing slightly longer and more erect hairs. Length 2.4-3.7 mm.

Occurs everywhere in our territory.

### **GASTRALLUS** Duval.

Form subcylindrical, feebly depressed; head not visible from above, received in an excavation of the prothorax. Eyes rather small, widely separated. Antennæ 9-jointed in our species, 10-jointed in the European species; first joint elongate oval, second similar but smaller, third to fifth smaller and nearly as wide as long, their inner margins not produced; sixth joint smallest, seventh and eighth elongate-triangular, ninth still longer, narrowly oval, pointed. Terminal joint of maxillary palpi elongate, a little narrowed apically, the tip truncate; last joint of labial palpi triangular, nearly equilateral. Prothoracic side margin obliterated, except toward the base. Elytra not wider than the thorax at base, a single fine marginal stria, punctuation confused. Front and middle coxæ widely separated, the prosternal process deeply sunk between the coxæ. Metasternum oblique, broadly but not deeply longitudinally sulcate. Metasternum not produced anteriorly. First and second ventral segments connate, the first longer than the second at the middle but shorter than it at the sides; third, fourth and fifth segments shorter, increasing in length. Legs slender, the tarsi two thirds to three-fourths as long as the tibiae.

A single species occurs in our fauna. It was described from Colorado, and has recently been taken in California.

1. **G. marginipennis** Lec.—Piceous brown, finely pubescent, legs and antennæ pale. Finely punctulate throughout, the pronotum and elytra with numerous scattered larger punctures. These punctures are nearly wanting at the anterior part of the pronotal disk, and are more conspicuous toward the elytral base, though evident over the whole surface. The prothorax is moderately narrowed anteriorly, the disk evenly convex; the side margin is sharply defined and subexplanate posteriorly, but is completely obliterated before the middle; the hind angles rounded but somewhat defined. Elytra with a fine marginal stria which is not obviously punctate. Length 1.9-2.4 mm.

Colorado (Garland), California (Pomona, Pasadena).

I am unable to detect any difference between the Colorado specimens and those from California. In the latter State it occurs on oak in June and July, but is not plentiful. Two species of this genus—*immarginatus* and *lavigatus*—occur in Southern Europe. In both the antennæ are 10-jointed.



**CTENOBIUM** LeConte.

Body slender, cylindrical, prothorax deeply excavated beneath for the reception of the head, which is received in repose upon the anterior coxæ. Antennæ 11 jointed, first joint thicker, nearly cylindrical; second smaller and shorter; third equal in length to the second, triangular, about as broad as its length in the female; fourth to eighth transverse, with the outer angle acutely prolonged in the female, the fifth and seventh more prolonged than the others. In the male the third to eighth joints are prolonged externally into a cylindrical branch twice as long as the joint itself; the ninth and tenth joints are compressed, elongate-triangular, each longer than the two preceding; the eleventh joint is elongate oval and compressed; ninth to eleventh joints united, nearly as long as all the preceding joints. Prosternum rather short before the coxæ, which are distinctly separated by the prosternal process, the latter parallel between the coxæ then suddenly acuminate at tip. Middle coxæ narrowly but clearly separated by the meso- and metasternal processes. Metasternum deeply channeled behind; hind coxal plates narrow, nearly parallel, not dilated inward. Tibiæ slender, not compressed; tarsi longer than the tibiæ, narrow, first joint elongate, last joint short, dilated; claws slender. Abdominal segments free, one to four subequal, fifth nearly as long as the third and fourth together, the tip conical and prominent in both sexes. Last joint of both maxillary and labial palpi moderately elongate and obtusely subtruncate at tip.

The above diagnosis with some slight additions and corrections is a transcription of LeConte's original description. One species only is known. It bears a rather strong resemblance to certain species of *Hadrobregmus* and *Oligomerus*, but is at once distinguished by its antennal and abdominal formation.

The *Ctenobium cinereum* of Horn is not congeneric with *antennatum*; for it and several other closely allied forms the genus *Xeranobium* has been established—see page 159.

1. **C. antennatum** Lec.—Cylindrical, brown, with sparse, fine, very short recumbent pubescence. Head (♂) nearly as wide as the prothorax; eyes large, the front but little wider than their vertical diameter. Prothorax scarcely as wide as the elytra, side margin narrow, feebly subserrate, front angles nearly right, hind angles not defined, disk subconically elevated at middle, the elevation divided by a feeble longitudinal channel. Elytra striate, striae punctate,

the outer rows regular and more deeply impressed, the sutural ones confused. The first tarsal joint is equal in length to the next three; the fourth joint is deeply emarginate above for the reception of the fifth, the third less deeply so. Length 5-6 mm.

Virginia. The only specimen before me is a male from the Hubbard and Schwarz collection. LeConte's types were also from Virginia.

### **PTINODES** LeConte.

This genus was established by LeConte for a species taken by himself at San Diego, California, the unique type of which has never to my knowledge been duplicated. The insect looks much like a small somewhat aberrant *Trichodesma*, and except for the dark discal area of *beyeri*, the similarity to small examples of the latter is rather marked. I give below the original diagnosis of LeConte:

"Body elongate, convex, pubescent and clothed with long erect hairs. Prothorax excavated beneath for the reception of the head, disk gibbous, not channeled. Eyes convex, moderate in size, prominent. Antennæ rather stout, joints 3-8 nearly equal, the outer ones slightly transverse; ninth and tenth each longer than the three preceding, and somewhat wider, oblong; eleventh a little longer, oval; the ninth to eleventh somewhat longer than all the preceding united. Prothorax narrowed behind, not contiguous to the trunk; prosternum obtusely truncate behind, separating widely the anterior coxæ, which are conical and prominent; middle coxæ prominent, well separated by the mesosternum, which is truncate (?) behind; metasternum not sulcate; hind coxæ with the plates very narrow, scarcely visible. Abdomen with the ventral segments smooth, sparsely hairy, not connate, the fourth shorter than the others, which are equal. Thighs strongly clavate; tibiæ not compressed, with external rows of long hairs; tarsi shorter than the tibiæ, stout, first joint very slightly elongated, fifth joint dilated, claws broadly dilated at base."

Dismissing LeConte's remark concerning the contiguity of the prothorax to the trunk as of really no significance, an analysis of the above description shows very little on which to base a separation from *Trichodesma*; but for the present it seems best to retain the genus, depending upon the somewhat more strongly clavate femora; the ventral segments of more uniform length, except the fourth; and the narrower hind coxal plates. I have observed also that the antennal club is relatively longer than in *Trichodesma*.

The following brief description was made of the type during a recent visit to the Cambridge Museum:

1. **P. setifer** Lec.—Robust, parallel, brown; body throughout clothed with confused luteous pubescence, somewhat denser on the head and prothorax; entire upper surface and legs with numerous scattered long erect hairs of the same color. Joints 3-8 of antennæ nearly equal in length, but 3, 5 and 7 are slightly larger than 4, 6 and 8. Head with small scattered granules. Prothorax nearly as long as wide, sides straight and parallel, front angles right, hind angles very obtuse and scarcely defined; base oblique at sides, truncate at middle; disk strongly gibbous, the gibbosity not channeled; surface granulate-rugose. Elytra wider than the prothorax, sides parallel, surface polished and with rows of perforate punctures, which are more or less confused on the disk.

The palpi are not clearly visible, but the last joint appears to be elongate fusiform. If this observation is correct, it is a point of importance in support of the validity of the genus.

### **TRICHODESMA** LeConte.

The members of this genus are among the most beautiful of our Ptinides. They are oblong, convex, of moderate or large size, more or less densely pubescent and ornamented with tufts of erect hairs. The terminal joint of the maxillary palpi is elongate-parallel, with the apex broadly squarely truncate and a little emarginate; last joint of labial palpi triangular, the apex broad and feebly emarginate. Antennæ 11-jointed, three outer joints large, elongate and together as long as or somewhat longer than the preceding united; intermediate joints not serrate. Eyes moderate. Prothorax strongly gibbous, narrowed behind, hind angles usually rounded but sometimes defined, surface granulate with small rounded tubercles. Elytra coarsely deeply punctate, the punctures sometimes in rows, sometimes completely confused. Front and middle coxæ widely separated, the prosternum broadly truncate behind. Mesosternal plate broadly concave. Ventral segments free, the first short, second longest, third nearly as long as the second; fourth subequal to the first; fifth a little longer than the fourth. Legs stout, thighs feebly clavate; tarsi dilated, the joints gradually increasing in width, the last joint broadly triangular and densely pilose beneath like the others. Claws with a broad rectangular basal tooth. As is usual in the Ptinidæ the eyes are a little larger in the males and the joints of the antennal club are a little more elongate, but these differences are not very conspicuous. This genus is widely distributed over the American Continent and is represented in most parts of our own territory. The number of species known to us has increased notably of late years, chiefly through explorations of the lower Rio

Grande and Lower California. A single species only—*gibbosum*—was known to LeConte, nor did a second appear till after the publication of the Second Supplement to the Henshaw List. In 1890 Casey described *cristata*, referring it to *Ptinodes*; a not very serious error, as the two genera are separated on rather trifling differences and may yet have to be united. In 1894 Horn added *sordida* (Texas) and *sellata* (Lower California); and in 1903 Schaeffer described *texana* and *pulchella*, both from the vicinity of Brownsville, Texas. Two more species are described in the present paper, one of these known to many of the eastern collectors, most of whom have assumed it to be a form of *gibbosa*; the other a small species brought by Mr. Beyer from Lower California. Our eight species separate quite readily as follows:

- Prothorax with sides more or less sinuate posteriorly .....3.  
 Prothorax with sides not sinuate posteriorly.....2.
2. Elytral vestiture rather sparse, not concealing the surface; humerus and basal margin, a small median and a subapical spot on each elytron, white; form very robust (California).....1. ***cristata***.
- Elytral vestiture more abundant but not dense, luteo-cinereous, hairs of thoracic and elytral tufts uniformly blackish brown (Pennsylvania and Kentucky).....2. ***klagesi***.
- Elytral vestiture relatively dense, especially in a broad whitish submedian fascia; hairs of thoracic and elytral tufts in part fulvous (Eastern United States).....3. ***gibbosa***.
- Elytra with a common antemedian circular subdenuded spot (Lower California) .....4. ***beyeri***.
3. Punctures of elytra distinctly serial in arrangement .....4.  
 Punctures of elytra extremely confused throughout.....5.
4. Elytra densely clothed with whitish pubescence, except in apical fourth; anterior transverse line of elytral tufts completely obsolete (Texas).  
     5. ***texana***.
- Elytra with dark irregular discal space which contrasts strongly with the dense white vestiture of adjacent portions; anterior and posterior transverse series of elytral tufts distinct (Lower California).  
     6. ***sellata***.
- Elytral vestiture relatively sparse, each elytron with numerous tufts of short dark brown hair arranged in three longitudinal lines (Texas).  
     7. ***sordida***.
5. Elytral vestiture pale brown, a narrow zigzag median transverse line and the apex pale; each with two discal tufts, one subbasal, the other at apical third (Texas).....8. ***pulchella***.

In the following diagnoses I have drawn freely upon the descriptions of Horn and Schaeffer, contenting myself with such additions and modifications as seemed necessary to insure uniformity of treatment.

1. **T. cristata** Casey.—Very robust, piceous, feebly shining, vestiture not very dense, revealing in great part the surface of the elytra, and the middle third of the pronotum posteriorly. Antennal club subequal in length to all the remainder, joints 3-7 about as wide as long. Prothorax about one-half wider than long, sides arcuately converging to base, the hind angles rounded, disk strongly gibbous, surface granulate, vestiture dense, except as above noted, intermixed throughout with longer fine erect hairs, the sides broadly clothed with whitish matted web-like pubescence; summit of the gibbosity with two approximate tufts of dark brown and fulvous hair, and anterior to these two similar tufts which are slightly less approximate. Elytra one-third wider than the prothorax, sides parallel, humeri narrowly rounded and broadly exposed. Surface with coarse punctures irregularly placed, and numerous lines and patches of small rounded granules; vestiture confusedly variegated with white, brown and black, the humeri, an oblique subsutural median spot, and a subapical spot of denser white hairs. There are two series of four blackish brown tufts of short erect hairs, one beginning at the umbone, extending obliquely backward and then forward to the suture; the other at the apical third, transverse and anteriorly arcuate. Lower surface simply pubescent and rather closely granulate, except the ventral segments, which are simply punctate, except along the outer margins. Legs rather densely pubescent, the femora and tibiae with numerous long erect hairs. Length 5.2-6.8 mm.

Pacific Coast from Los Angeles County, California to Oregon. This species seems to have been most frequently taken in the Coast Range of Middle California, the majority of specimens examined coming from the Santa Cruz Mountains; it is distinctly more robust than any other species of our fauna and is the only one occurring in the region which it occupies.

2. **T. klagesi** n. sp.—Form and size of *gibbosa*; vestiture more yellowish gray and less dense, especially on the elytral disk where it is obscurely vittate in arrangement. The basal dark area of the elytra is less conspicuous, the posterior series of blackish tufts slightly less apical in position, and both the elytral and thoracic tufts without admixture of fulvous hairs. The intermediate antennal joints seem slightly less elongate, being scarcely longer than wide. Length 5.8-6.4 mm.

*Hab.*—District of Columbia; Pennsylvania (Manayunk; "Bucks County," Jeannette); Virginia (Penington Gap); Kentucky.

This species has a somewhat limited range, but is apparently not rare. Most eastern collections that I have examined contain one or more examples almost invariably mixed with *gibbosa*. The specimens in the National Museum collection were labeled "n. sp." by Mr. Schwarz, and Mr. Henry Klages of Jeannette, Pennsylvania, has also recognized its specific distinctness in a note in his "Additions to Hamilton's List of the Coleoptera of Southwestern Penn-

sylvania." Mr. Klages finds this species on hickory trees only, but Mr. Schwarz tells me that he has taken both it and *gibbosa* on hickory and on various other trees as well.

It gives me great pleasure to dedicate the species to Mr. Klages, to whom I am indebted for a series of specimens as well as for many courtesies extended at the Carnegie Museum and at his home.

3. **T. gibbosa** Say.—Oblong, moderately robust, densely clothed with grayish white recumbent hairs, except the posterior median portions of the prothorax, and a broad discal posteriorly rounded basal area on the elytra. Antennal club subequal in length to all the preceding joints, the intermediate joints mutually similar and all a little longer than wide. Prothorax evidently narrower than the elytra, sides a little arcuate and convergent posteriorly, hind angles rounded; disk strongly gibbous, surface throughout rather densely granulate, each granule bearing a long fine erect hair, the vestiture otherwise dense and subrecumbent, except as above noted; the summit of the gibbosity with a divided tuft of brown and fulvous hairs, and anterior to these two smaller similar tufts. Elytra with coarse punctures arranged in somewhat irregular rows, and numerous small rounded granules which are more conspicuous at base; vestiture consisting of dense recumbent whitish gray hairs intermixed throughout with long fine erect hairs. The whitish recumbent hairs are, however, nearly lacking in a large basal area which contrasts strongly with the adjacent densely clothed portions, and are also sparser in the apical fourth. Within the dark basal area there are on each elytron two elongate lines or tufts of dark brown and fulvous hairs, one sutural the other parallel to and exterior to the first. At the posterior fourth there is on each elytron a transversely arcuate series of four smaller tufts. Under surface and legs as described of *cristata*. Length 5-6.7 mm.

Widely distributed throughout the Atlantic region and in the Mississippi Valley. The following localities are represented in the material at hand. Massachusetts, New York, Pennsylvania, Ohio, Florida, Canada, Michigan, Indiana, Iowa, Missouri, Louisiana, Kansas.

Dr. Hamilton records the occurrence of this species on elm sprouts.

4. **T. beyeri** n. sp.—Oblong, brown, twice as long as wide; vestiture grayish, with the usual darker erect hairs, moderately dense, but not concealing the surface color of the elytra, the latter with a submedian rounded subdenuded area. Head sparsely punctate and granulate. Antennal club distinctly longer than the preceding joints in both sexes; joints 4-8 about as wide as long, the ninth more parallel and equal to the five preceding in the male, more triangular and a little shorter in the female. Prothorax narrower than the elytra, the sides straight or feebly arcuate and moderately converging behind; hind angles rounded. Surface granulose, summit of gibbosity with four approximate spots of brownish black hair, which is, however, scarcely longer or tufted. Elytra coarsely confusedly punctate, scarcely at all granulate, each with two tufts of blackish hair within and close to the front margin of the denuded area, and a

series of three or four in a transverse line at the posterior fourth. All elytral tufts are small and easily lost by abrasion, the outer one in the central dark area being most persistent. Sterna granulate as usual, the abdomen very sparsely punctate, not granulate along outer margin. Length 3.5-5.4 mm.

*Hab.*—Santa Rosa, Lower California.

A small number of specimens collected by Mr. Beyer, to whom I am indebted for this and many other interesting additions to my cabinet, and whose name I am pleased to give to the above species in recognition of the good work done by him in the region named.

5. **T. texana** Schaeff.—Oblong, cylindrical, twice as long as wide, with white and fulvous pubescence, intermixed with longer erect hairs. Head dull, with rather densely placed elongate granules, front more distinctly impressed than usual. Antennal club longer than the preceding joints united, intermediate joints as wide as long. Prothorax very nearly equal in width to the elytra, sides arcuate in front, then sinuately narrowing to the hind angles which are usually rather sharply defined though obtuse; surface granulate and densely clothed with whitish and fulvous short recumbent hair, intermixed with longer erect hairs; gibbosity with four small blackish spots, two at the summit and two anterior to these. Elytra regularly striate with coarse, closely placed punctures, base and apex sparsely granulate; vestiture dense and nearly uniformly white to apical fourth, which is more sparsely clothed with fulvous hairs. Anterior tufts of black hairs almost completely wanting, posterior tufts small but obvious, in a transverse line at apical fourth. Beneath densely gray pubescent. Sterna granulate as usual, the ventral segments also granulate over almost their entire surface. Length 4-5 mm.

Specimens are before me from Brownsville, Texas (Schaeffer); Cameron County, Texas (Wickham); Matamoros, Mexico (Nat. Museum collection).

6. **T. sellata** Horn.—Cylindrical, rather more oblong than *gibbosa*, piceous black, densely clothed above with a white matted web-like pubescence, a large saddle-shaped space common to both elytra, of brownish pubescence, the whole surface with intermixed longer erect hairs. Antennae ferruginous, the club distinctly longer than the preceding joints combined, joints 6-8 evidently smaller than those preceding, ninth as long as third to eighth united in the male. Head densely pubescent and granulate. Thorax broader than long, sides arcuate in front, suddenly sinuately narrowing at the middle, hind angles distinct; disk strongly gibbous, an impressed line, chiefly due to the parting of the pubescence, from the apical margin to the summit of the gibbosity, which is clothed with short stiff brown hair. Elytra a little wider than the thorax at middle, with well-defined series of coarse punctures; very densely pubescent, the surface concealed, except in the dark discal area; each with two transverse series of brownish black brush-like tufts of erect hair, one—three in number—at the basal third, the other at apical third, four in number, but the outer one very small. Body beneath densely pubescent. Sterna and abdominal margin granulate. Length 7 mm.



*Hab.*—Lower California, El Taste and Santa Rosa.

I know of only two examples of this beautiful species, the type from the former, and a second specimen collected by Mr. Beyer at the latter locality and kindly sent me for examination.

7. **T. sordida** Horn.—“Cylindrical, oblong, more than twice as long as wide; black, head and thorax with dirty yellow pubescence, elytra with a band of same along the base, a very narrow sinuous band at middle and an irregular apical space of same color. Antennæ black. Head black, punctuation concealed. Thorax broader than long, sides arcuate in front, slightly sinuate in front of the hind angles, the latter distinct, disk gibbous behind the middle, a slight sulcus from the apical margin to the summit of the gibbosity, surface distinctly granulate and not densely clothed with dirty yellowish pubescence and with intermixed, short, black, erect hairs, but without brush at the summit of the gibbosity. Elytra but little wider than the thorax, the surface with irregular striae of coarse deep, not closely placed punctures, and clothed with velvety black pile arranged in quite small spots; a dirty yellow band composed of spots across the base, a sinuous indistinct band at middle and a space near the apex of similar pubescence. Body beneath black, subopaque, surface granular, dashed with recumbent dirty yellow pubescence. Length 7.5 mm.”

“One specimen, Texas; special locality unknown.”

The above is Horn's description. Specimens referred to this species by Mr. Schaeffer, and it seems to me correctly so, have been taken by him at Brownsville, Texas, and one of these is now before me. In it, it should be remarked that the thorax and elytra are of equal width, the latter almost without granulations. The brush-like tufts of blackish hairs are more numerous than in any other of our species, and are arranged in three longitudinal lines on each elytron.

8. **T. pulchella** Schaeff.—Oblong, slightly more robust than *gibbosa*, black with very short pale brown recumbent pubescence, intermixed with longer erect hairs; sides of thorax, base of elytra, a narrow strongly dentate median band and apex with denser white pubescence. Antennæ brown, club slightly longer than the preceding joints united (♀), joints 5-8 a little transverse. Head and thorax strongly granulate, the latter transverse, subequal in width to the elytra, widest near the middle, the sides arcuate in front and rather abruptly shortly sinuate behind, hind angles almost rounded; median channel from the front margin to the summit of the gibbosity well marked, the summit clothed with short erect ferruginous hair. Elytra with irregularly closely placed coarse deep punctures but not granulate. Between the angulate median fascia and the apical white space is a white longitudinal streak terminated posteriorly by a small tuft of black hairs. At an equal distance from the suture at basal fourth is a similar tuft, these representing in this species the usual anterior and posterior transverse series. Body beneath black, shining, densely pubescent, abdominal segments remotely punctate and sparsely granulate at sides and apex. Length 5.5-7 mm.

Esperanza Ranch near Brownsville, Texas.

Two females are at hand, kindly communicated by Mr. Schaeffer, who records taking them on ebony and more rarely on other trees.

### NICOBIMUM LeConte.

Closely allied to *Trichodesma*, with which it agrees in all essential characters, except as follows: The terminal joint of the maxillary palpi is narrow, elongate, scarcely compressed, and pointed at apex; terminal joint of labial palpi less broadly triangular. The claws are not appendiculate, but merely a little thickened at base. The last ventral segment is longer, segments one, two, three and five being subequal. The vestiture is less dense and not at all tufted.

A single species introduced from Europe is occasionally found in our Southern States.

1. **N. hirtum** Ill.—Oblong, moderately elongate, brown, not very densely clothed with short grayish and brownish recumbent hair, the latter causing the elytra to appear obscurely fasciate; the elytral intervals with a single nearly regular line of slightly longer suberect recurved hairs. Head and antennæ as in *Trichodesma*. Prothorax transverse, nearly as wide as the elytra, sides arcuate and narrowed posteriorly, hind angles indistinct; surface gibbous and closely granulate, a feeble impressed line from the front margin to the summit of the gibbosity. Elytra with regular striae of rather coarse, closely placed subquadrate punctures. Beneath finely grayish pubescent, sterna granulate, abdomen densely finely punctate, without granules. Legs nearly as in *Trichodesma*, the femora scarcely at all clavate. Length 4–4.6 mm.

All native specimens seen are labeled either Louisiana or Florida.

### ANOBIOPSIS new genus.

Oblong, subcylindrical, clothed with rather dense recumbent pubescence with intermixed erect hairs. Mentum transverse trapezoidal. Last joint of maxillary palpi elongate oval, pointed, very little wider than the preceding joints; last joint of labial palpi broadly triangular, the inner side rounded, much wider than preceding joints. Antennæ about two fifths as long as body, 11-jointed, joints 9–11 subequal to the preceding united, ninth and tenth similar, elongate-triangular, equal in length to sixth to eighth inclusive; eleventh elongate-oval; third joint nearly twice as long as wide, fourth to the eighth each about as wide as long, the fifth slightly wider than the others. Eyes moderate, rather strongly convex. Prothorax strongly gibbous, narrower than the elytra. Elytra with

scarcely impressed, slightly irregular rows of fine approximate punctures, the intervals much wider than the punctures. Front and middle coxæ widely separated, the prosternum flat and truncate behind; metasternum rather deeply concave in front. Ventral segments free and simply punctate, the extreme margins granulate; first and fourth segments shortest, second longest, third and fifth subequal and intermediate in length; first and second ventral sutures anteriorly arcuate at middle. Femora not clavate, tibiæ rather slender, the outer apical angle acutely produced in the two anterior pairs; tarsi moderate, the first joint nearly twice as long as wide as viewed from above, second joint a little longer than wide, third and fourth as wide as long, fifth longer than wide, moderately dilated; claws simple.

This genus is erected for a single Californian species, which is intermediate in its characters between *Trichodesma* and *Anobium*, the sculpture of the under surface and the vestiture pointing toward the former, while the excavate metasternum suggests *Anobium*, in which, however, the excavation is deeper, the tarsi narrower and the palpi of different form.

1. **A. sericans** n. sp.—Subcylindrical, more than twice as long as wide, piceous brown, clothed with rather dense recumbent brown and cinereous hairs, with numerous longer erect hairs. Head finely granulate. Prothorax about as long as wide, sides nearly parallel in anterior half, then rounded and convergent to base, with which they form a continuous curve, the hind angles not defined; front angles right, disk strongly gibbous and compressed, the median line carinate from the front margin to the summit of the gibbosity; surface densely granulate, vestiture dark brown, with four paler discal spots. Elytra evidently wider than the prothorax, the recumbent pubescence holosericeous, the cinereous hairs so disposed and directed as to give the appearance of a dark submedian fascia and subapical spot with some smaller dark areas irregularly disposed. Legs finely cinereous pubescent, with longer hairs. Sterna with numerous rather large rounded granules; ventral surface rather sparsely simply punctate, the margins of the segments granulate. Length 5.4 mm.

Described from a single individual of unknown sex, beaten from dead branches of live oak at Pomona, California, May. This is the species referred to in my California list as *Xestobium* n. sp. following a determination by Dr. Horn.

#### **ANOBIUM** Fabricius.

The old genus *Anobium*, established by Fabricius in his *Systema Entomologiæ* (1775), was, like most of the early genera, made to cover a far greater diversity of forms than the more scientifically

critical judgment of later systematists could accept. In his later *Systema Eleutheratorum* (1801) Fabricius includes under this caption fifteen species, now distributed among some eight or ten genera or subgenera in European lists. Notwithstanding a looseness of definition, which permits the association of species of *Ernobius*, *Xestobium*, *Priobium*, *Endecatomus*, *Cis*, etc., under a single name, the genus was described with greater precision than most earlier and many of later date, and in a gradually restricted sense has been in constant use in Europe and America for over a hundred years. In the latest European list the authors have replaced *Anobium* Fab. by *Byrrhus* Geoff. It is not my purpose to discuss here at length the propriety of this course, but I cannot refrain from saying that aside from the questionable availability of the Geoffroyan genera because of lack of conformity to the generally recognized rules of binomial nomenclature, the substitution of a name never current in this connection, but long used in another, for one which has been in constant use for a century appears to me to be totally unwarranted and calculated only to subvert the interests of science by creating a needless confusion in existing literature. The law of priority is not a fetich to be blindly followed but should always be subordinated to what the late Dr. Hamilton bluntly calls the law of common sense.

The first author to divide the old genus *Anobium* on structural characters was C. G. Thomson in his work on the Skandinavian Coleoptera, 1859-63, in which he restricts the name to those species having the prothorax excavated beneath for the reception of the head, and the pectoral excavation for the reception of the antennæ prolonged into the metasternum.\* The genera *Ernobius*, *Hydrobregmus*, *Sitodrepa* and *Cnecus* were based upon other members of the old *Anobium*, and all of these, with the exception of *Cnecus*, which is a synonym of *Xestobium* Motschulsky, still stand. Both

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\* In his paper on the Anobiidae LeConte writes as follows in this connection: "The modern idea of types for genera cannot be rigorously applied to those founded by the older authors, and the attempt to do so has been productive of much confusion. The author who first distinguishes the composite elements of a genus to which no type is definitely assigned by the founder, may certainly use his judgment in applying the original name to any one of the new genera which contains species of the original author. This judgment once exercised constitutes a kind of priority which must be respected, in order to prevent the inconvenience of applying the old name to several different genera according to the ideas

LeConte in 1862 and Mulsant and Rey in 1864 treated this group with scientific acumen, but both being ignorant of Thomson's work, many of the generic names proposed by them are synonymous with those of the Scandinavian author. Later European writers have exhibited a marked conservatism in their estimates of the importance of the genera and subgenera proposed, and in the recent catalogue of Heyden, Reitter and Weise, *Dendrobium* (*Celostethus* Lec), *Microbregma*, *Hadrobregmus*, *Nicobium* and *Sitodrepa* are all regarded as subgenera of *Anobium*. The genus as thus constituted seems to me undesirably complex. The association in the same genus, of *Dendrobium* with its widely separated coxæ, broad truncate prosternum, deeply excavate metasternum and connate ventral segments, and *Sitodrepa* with its narrowly separated coxæ, acuminate prosternum, unexcavated metasternum and free ventral segments, is quite incongruous. Both *Dendrobium* and *Sitodrepa* possess full generic value and the same should I think be said of *Nicobium*. *Hadrobregmus* and *Microbregma* are indeed much more closely related to the true *Anobium* and might reasonably be considered of subgeneric import, though in the present essay I have chosen to separate them as distinct genera. As here limited the genus *Anobium* differs from *Hadrobregmus* only in its very deep abruptly formed metasternal cavity and contains but a single species occurring in both Europe and America. This is the common European *Anobium striatum* Oliv., frequent in the walls of houses where its habit in common with certain other species, of tapping with its mandibles, the surface on which it stands has earned for it among the superstitious the name of the death tick or death watch. The resemblance of this species to certain *Hadrobregmi* is very striking; so much so indeed that LeConte, failing to observe the deep metasternal cavity, described native specimens under the name *Hadrobregmus pumilus*.

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of subsequent commentators. This is the principal laid down in the "Merton Rules," the "A. O. U. Code," indorsed after mature deliberation by the Entomological Society of London and has been accepted by the great majority of modern naturalists. It appears to me to be eminently logical and just. The method advocated of late in certain quarters of determining a genus by the first species described therein is simple, definite and convenient, and while in no sense scientific might with advantage be used in the future; it should never be made retroactive, however, for obvious reasons.

1. **A. striatum** Oliv.—Elongate, subcylindrical, brown, opaque, with rather sparse short perfectly recumbent pubescence. Antennæ 11-jointed, about half the length of the body in the male, shorter in the female; third joint slightly shorter than the two following united; fourth to eighth small, subequal; ninth equal to the six preceding; ninth to eleventh longer than the entire remainder. Head and prothorax simply finely punctate, the former with a prominent frontal protuberance, the latter strongly elevated posteriorly and compressed, the front declivity of the elevation lightly channeled, the sides obliquely impressed; side margins strong, nearly straight and a little convergent in front, just visibly sinuate behind the front angles which are sharply defined, right or slightly acute; hind angles rounded. Elytra slightly wider than the prothorax, with feebly impressed striae of approximate subquadrate punctures; the interspaces wider than the striae, not distinctly punctured. Beneath dull, finely pubescent and minutely punctate. Metasternum with a triangular glabrous fovea between the anterior cavity and the hind margin. Ventral segments one, three and five nearly equal, the fourth just visibly shorter; the second longest; first suture bisinuate, posteriorly arcuate at middle. Hind coxal plates narrow, nearly parallel, the hind margin almost straight. Fifth segment with a subapical transverse fovea in the male, the segment nearly flat in the female. Length 2.7-4 mm.

Very few native specimens of this species have been seen, the material before me containing only single examples from Massachusetts (Blanchard), Da Costa, New Jersey (Boerner) and Rosslyn, Virginia (Chittenden).

### **HADROBREGMUS** Thomson.

Elongate, subcylindrical; pubescence fine, short and usually sparse, perfectly recumbent. Antennæ 10- or 11-jointed, stem not serrate, three outer joints elongate, together longer than all the preceding. Prothorax slightly or distinctly narrower than the elytra, moderately or strongly gibbous, sides narrowly margined (except *defectus*), hind angles indistinct. Elytra feebly striate, with regular series of rather large punctures. Anterior and middle coxæ widely separated, the antennæ received between them; prosternal process truncate behind; metasternum not or scarcely excavated in front; ventral segments free, varying in relative length in the different species.

Certain species, notably those at the beginning of the series (*carinatus*, etc.), resemble *Oligomerus* quite closely, but they are really more nearly, indeed very nearly related to *Anobium*. The palpi also show an approach in form to those of *Anobium* and *Celostethus*, the terminal joint being more dilated apically with the tip obliquely truncate or subtruncate.

## Antennæ 10-jointed.

First ventral suture straight, the second segment not quite as long as the fifth.

Prothorax quite conspicuously narrower than the elytra, the sides without acute margin, except at hind angles.....1. **defectus**.

Prothorax very little narrower than the elytra, the sides acutely margined throughout.

Disk of prothorax slightly gibbous and compressed behind, sides convergent and usually feebly sinuate behind the front angles.

2. **carinatus**.

Disk of prothorax strongly gibbous, sides straight and nearly parallel for more than two-thirds their length... 3. **linearis**.

First ventral suture bisinuate, broadly posteriorly arcuate at middle, second segment a little longer than the fifth.....4. **pusillus**.

## Antennæ 11-jointed.

Prothorax equal in width to the elytra, its side margin feeble anteriorly; second ventral segment barely as long as the fifth, first suture straight; brown; length 3.8 mm.....5. **laticollis**.

Prothorax slightly narrower than the elytra, side margin wide; second ventral segment equal to the fifth; black; length about 5 mm.

6. **umbrosus**.

Prothorax much narrower than the elytra; second ventral segment obviously longer than the fifth, first suture bisinuate; disk of prothorax strongly elevated and compressed, side margin bisinuate....7. **gibbicollis**.

1. **H. defectus** n. sp.—Dark brown, opaque. Antennæ 10-jointed. Prothorax much narrower than the elytra, disk rather strongly gibbous and moderately compressed posteriorly, sides not margined, slightly convergent anteriorly, and with very faint apical sinuation. Elytra striate as usual, the interspaces more evidently rugose than in *carinatus*. Ventral sutures straight. Length 4.5 mm.

The unique type is apparently a female and was taken at Tyngsboro, Mass., by Mr. Blanchard, who informs me that he found it on an oak stump in the woods. The obliteration of the side margin of the prothorax, if it be not accidental, is an extraordinary character, and one by which this species may be recognized at a glance. The prothorax is relatively narrower than in any other of our species except *gibbicollis*.

2. **H. carinatus** Say.—Red brown to piceous brown. Prothorax subequal in width to the elytra; sides rounded, straighter and moderately convergent in front, with or without a short sinus at the anterior angles, hind angles undefined; disk slightly gibbous and a little compressed posteriorly. Elytra with moderately impressed, strongly and closely punctate striae. Antennæ scarcely half the length of the body, first joint arcuate and not much thickened; second about three-fourths as wide as the first and a little longer than wide; third similar to the second but smaller; fourth to seventh short and transverse, the fifth and seventh a little smaller than the fourth and sixth; eighth in the male subparallel and nearly two and one-half times as long as wide, twice as wide as the preced-



ing joints, and as long as 2-7 united; ninth similar to eighth; tenth obviously longer than the ninth, linear, pointed. In the female the eighth joint is less parallel and equal to 3-7 united. The eyes are only slightly larger in the male. Length 3.4-6.8 mm.

This species is common and widely diffused in the northern and eastern portion of the United States and Canada. The material before me covers the region extending from New Hampshire to North Carolina (Black Mountains, Van Dyke) and west to Iowa and Missouri. Say's type was said to have been "found on the Mississippi above the mouth of the Ohio."

There is much variation in size, depth of color, and distinctness of the apical sinuation at the sides of the prothorax, but apparently little in other respects. The larger specimens—usually females—are most frequently darker in color, and it is in these that the post-apical sinuation often disappears, and the angles become in consequence less sharply outlined. The sinuation is nearly always evident in the smaller specimens, but there is every possible intermediate form in the series at hand, and in more than one specimen the sinuation is present on one side and not on the other. I am therefore compelled to unite *errans* Melsh. with *carinatus*, there being no other character given in the books for their separation.

3. **H. linearis** Lec.—Blackish brown, size of average *carinatus* and otherwise very similar, except that the sides of the prothorax are straight and parallel for more than two-thirds their length, and the disk is more strongly gibbous.

With the type which, according to LeConte, comes from the Saskatchewan region, Hudson Bay Territory, there have been placed two examples collected by Hubbard and Schwarz at Detroit. In both of these the sides of the prothorax are a little convergent in front, and one of them has one antenna 10-jointed, the other 9-jointed. The thoracic gibbosity is better marked than in either *carinatus* or *umbrosus*, but aside from this and the number of antennal joints the Detroit specimens could hardly be separated from *umbrosus*. These variations are puzzling and I am rather strongly inclined to believe that when sufficient material shall have been studied, both *linearis* and *umbrosus* will prove to be nothing more than extreme forms of the variable *carinatus*.

4. **H. pusillus** n. sp.—Very small, reddish brown, prothorax scarcely as wide as the elytra, disk strongly gibbous and compressed behind, elytral striae more feebly impressed, at least on the disk, and somewhat more finely punctate

than in *carinatus*. First and fifth ventral segments subequal, the second evidently longer than the fifth. Otherwise very nearly as in *carinatus*. Length 2.2-2.8 mm.

Ithaca, New York; Toronto, Canada; Pennsylvania; Cincinnati, Ohio; Dane County, Wisconsin; Tennessee; North Carolina. The first ventral suture is obviously though feebly posteriorly arcuate at middle, thus slightly narrowing the second segment, agreeing in this respect with *Anobium striatum*, to which species it otherwise bears a very striking resemblance.

5. ***H. laticollis*** n. sp.—Brown, a little stouter than *carinatus*, the prothorax fully equal in width to the elytra at base. Eyes (♂) moderately large, separated on the front by rather less than twice their vertical diameter. Antennæ 11-jointed, first joint of club parallel, three times as long as wide, and equal in length to the seven preceding. Prothorax a little more strongly gibbous than in *carinatus*, sides moderately convergent in front; margin fine and somewhat ill defined in front, becoming more pronounced and a little explanate at the hind angles, which are rounded as usual; surface finely not closely granulate-punctate, a subobsolete impressed line from the front margin to the summit of the gibbosity. Elytra finely punctate-striate, the interspaces much wider than the rows of punctures; apex narrowly but evidently truncate. Second ventral segment just visibly shorter than the fifth; first suture straight. Length 3.8 mm.

California (Castle Crag). A single male collected by Dr. Fenyes.

6. ***H. umbrosus*** n. sp.—This name is given with some hesitation to a rather large blackish form, with 11-jointed antennæ, which resembles in nearly every particular the large dark forms of *carinatus*. The sides of the prothorax are straight and moderately convergent anteriorly, without post apical sinuation. The second ventral segment is equal in length to the fifth, the first suture just visibly arcuate at middle. Length 5.1-5.5 mm.

White Fish Point, Lake Superior; New York; North Conway, New Hampshire (Blanchard).

Three examples from the first named locality in the Hubbard and Schwarz collection are taken as types. In one of the New York specimens the sixth and seventh joints of the antennæ are completely connate, but with the line of junction plainly indicated. It is possible that in a large series the number of joints will be found to vary as in *Oligomerus obtusus*, and that *umbrosus* is only an extreme form of *carinatus*.

7. ***H. gibbicollis*** Lec.—Varies in color from brown to piceous; pubescence longer than usual and more or less evidently condensed on alternate intervals of the elytra, these intervals being also a little more convex. Prothorax much narrower than the elytra, as long as or a little longer than wide, base and apex of equal width, the sides nearly parallel and bisinuate; front angles well defined,

hind angles rounded; disk very strongly elevated and compressed posteriorly, the anterior declivity lightly furrowed; a strong lateral oblique impression before the middle, the posterior limiting elevation terminating in a marginal prominence. The antennæ are of the usual form, the ninth joint as long as the six (♂) or five (♀) preceding. The fifth ventral segment is subequal to the first and evidently shorter than the second; the first suture broadly sinuous. In the male the fifth ventral is slightly foveate at middle at the apex, a small prominence each side. Length 3.5-6 mm.

Pacific Coast from Vancouver to Southern California.

### MICROBREGMA Seidlitz.

The above name was proposed by Seidlitz in his *Fauna Transylvanica*, 1891, for the European *Anobium emarginatum* Duft., a species with which our *foveatus* Kirby is apparently identical. Whether *Microbregma* should be regarded as a subgenus as originally proposed or as a genus, as I have chosen to do, is of course a matter of individual opinion and one to which reference has already been made under *Anobium*. The characters which separate it from *Hadrobregmus* are briefly as follows: Sides of prothorax straight and parallel, hind angles sharply defined; third ventral segment nearly twice as long as either the first or fourth; first and second ventral sutures anteriorly arcuate; fifth ventral densely granulate posteriorly; front and middle tibiae acutely produced externally at apex.

1. **M. emarginatum** Duft.—Brown, prothorax not as wide as the elytra, the sides parallel and a little sinuate between the angles which are almost right; the base sinuate within the angles then broadly strongly rounded or lobed; disk with a very feeble median prominence before the hind margin, anterior to which it is broadly excavated, and on each side tuberculate; surface sparsely granulate. The antennæ are 11-jointed, the ninth joint shorter and more triangular than in *Hadrobregmus*, being only as long as the three or four preceding joints. The only other characters of importance are mentioned in the preceding generic diagnosis. Length 4-5 mm.

New Hampshire; Massachusetts; Canada; Michigan; Minnesota; Colorado; British Columbia.

This species is not given in either the New Jersey, District of Columbia, Southwestern Pennsylvania or Cincinnati lists, and is evidently confined in America to the northern portion of the continent. It occurs in northern Europe.

Var. *granicollis* n. var.—This name is proposed for a form occurring in Washington, Oregon (Portland), and California (Lake

Tahoe), which differs from typical *emarginatum* in its much more coarsely closely granulate prothorax. Specimens average slightly larger than the typical form, ranging from 4.5–5.5 mm. in length.

### **CÆLOSTETHUS** LeConte.

This name was proposed by LeConte in 1862 for the *Anobium notatum* of Say and his own *A. quadrulum*, the most notable character of which, though not mentioned by LeConte, is the connate ventral segments. Two years later Mulsant and Rey apparently without knowledge of LeConte's work, established the subgenus *Dendrobium* for the European species possessing this character. In his paper of 1865 LeConte suppressed *Cælostethus* as a synonym of *Anobium*, and it is possibly on this account that *Dendrobium* still stands as a subgenus in the European catalogues.

The remarkable character mentioned above is accompanied by several other peculiarities of structure or facies, which are very constant and render the group an unusually sharply defined one and well worthy of generic standing. The eyes are moderately convex but rather small and distant; mandibles acutely carinate on the upper face; joints of antennal club of parallel form, together subequal in length to all the preceding; prosternum longitudinally carinate; metasternum abruptly deeply excavated to the middle, thence deeply narrowly sulcate to the hind margin; first ventral segment short; second, third and fourth subequal, fifth longest and more or less impressed at the middle of the apical margin. The first ventral suture is distinct and anteriorly arcuate at middle; the others are obliterated at middle. The punctures of the abdomen are annular or lunate, the inclosed areas showing a tendency, especially toward the sides, to become more or less prominent tubercles. This singular structure is present elsewhere only in the closely related *Trypopitys*. The disk of the prothorax is not elevated, the hind angles distinct, the surface strongly granulato-tuberculate. The vestiture is inconspicuous as a rule and more or less perfectly recumbent. Tarsi rather short.

Five species are known from our fauna, all occurring in the northern parts of our territory, or in the mountains when found farther south. They separate as follows:

- Pubescence of elytra variegated, dark brown and cinereous.....1. **notatus**.
- Pubescence of elytra uniform in coloration .....2.

2. Hind angles of prothorax clothed above and beneath with dense yellow hair.  
2. **americanus**.

Hind angles of thorax without patch of yellow hair.....3.

3. First joint of antennal club equal to three preceding; disk of thorax distinctly longitudinally impressed, apex of elytra scarcely truncate.

Vestiture of elytra very short, inconspicuous and almost perfectly recumbent, the alternate interspaces not elevated..... 3. **quadrulus**.

Vestiture of elytra more conspicuous and with numerous more prominent short recurved hairs; alternate interspaces slightly more convex and more pubescent.....4. **alternatus**.

- First joint of antennal club equal to the two preceding; disk of prothorax not distinctly longitudinally impressed; apex of elytra truncato-emarginate .....5. **truncatus**.

1. **C. notatus** Say.—Moderately elongate, subcylindrical, dark brown. Vestiture short, recumbent, dark brown, variegated with yellowish cinereous as follows: the base, median channel and two small discal spots on the prothorax; and on the elytra, basal, submedian and posterior transverse fasciæ, which are quite irregular, being usually more or less broken up into elongate spots. Head sparsely granulate; ninth antennal joint equal to or a little longer than the three preceding. Prothorax as wide as the elytra, sides parallel in basal two-thirds, distinctly sinuate before the hind angles, which are right or slightly acute; disk channeled from the front margin to the posterior depression; surface deeply concave within the angles. Elytra with closely punctate striæ, the intervals not wider than the striæ. Mesosternum and abdomen moderately closely, coarsely annulate or lunate-punctate. Length 3.2-4 mm.

New England States and Canada to Michigan, Missouri and North Carolina. This is our prettiest species and the only one occurring in the Eastern States. It is said in the Washington List to occur on old oak branches.

2. **C. americanus** n. sp.—Oblong, robust, piceous-brown, not shining, pubescence fine, short, and perfectly appressed. Head moderately closely granulate, ninth antennal joint but little wider than the preceding and a little shorter than the next three. Prothorax as wide as the elytra at base, sides nearly parallel, not sinuate before the hind angles which are a little obtuse. Disk distinctly impressed at middle, transversely impressed along the base each side, the impression becoming deeper toward the angles, the latter with a dense patch of appressed yellow hair which is continued beneath along the hind margin of the flanks and also on the contiguous surface of the humeri and on the mesosternal side pieces. Elytral striæ distinctly impressed, the interspaces, except near the suture not or scarcely wider than the striæ and distinctly convex. Metasternum strongly granulato-tuberculate; ventral segments with the usual annular punctuation which tends strongly to become tuberculate toward the sides; last ventral concave before the apex, the apical margin deflexed. Length 4.5-5.5 mm.

Colorado (Ouray and Silver Plume, Wickham); National Park, Wyoming (Schwarz).

This species is very closely related to the European *pertinax* Linn. In specimens of the latter sent by Reitter, the ninth joint of the antennæ is slightly longer than the three preceding, and the elytral interspaces are wider and nearly flat.

3. **C. quadrulus** Lec.—Moderately robust, dark brown, with fine sparse appressed pubescence, which becomes a little longer and paler in the posterior thoracic impressions. Ninth joint of antennæ equal in length to the three preceding. Head and prothorax of the form and sculpture common to the genus. Prothorax as wide as the elytra, sides not sinuate before the hind angles which are a little obtuse; disk feebly concave at middle. Elytra with regular striæ of quadrate punctures, the intervals scarcely wider than the striæ and usually very slightly convex. Beneath sculptured as usual in the genus; the last ventral broadly concave at middle, nearly or quite throughout its length, the concavity becoming deeper posteriorly. Length 4.3-5.6 mm.

This species ranges from the middle Sierras of California to British Columbia. I have seen specimens from Kaweah, California (Hopping); Lake Tahoe (both in California and Nevada); Oregon; Tenino, Washington, and Vancouver and North Bend, British Columbia.

4. **C. alternatus** n. sp.

Nearly identical in form, size and sculpture with *quadrulus*, the only noteworthy differences being those given in the table. The suberect recurved hairs which are intermixed with the appressed pubescence are very short but are distinctly visible in profile with a good lens.

Three examples only have been seen; one from Colorado in the Horn collection, the other two taken by Cockerell in New Mexico (Wootens and "eight miles above Mora"), and now in my collection.

5. **C. truncatus** n. sp.—More elongate and smaller than *quadrulus*; color varying from red-brown to dark brown; pubescence completely appressed. Prothorax scarcely as wide as the elytra at base; ninth joint of antennæ equal to the two preceding joints, fourth to eighth distinctly triangular (trapezoidal or subquadrate in the preceding species); thoracic disk scarcely or very feebly concave at middle; elytral interspaces nearly flat and wider than the striæ, the apex distinctly truncate-emarginate; other characters nearly as in *quadrulus*. Length 3-4.5 mm.

Specimens before me are from Lake Tahoe, Nevada, and California (Hubbard and Schwarz); Oregon (Koebele); Eastern Washington (Koebele); Tenino, Washington, and Vancouver, British Columbia (Hubbard and Schwarz).

An example in the Horn collection from Colorado seems scarcely different and is referred here.

**TRYPOPITYS** Redtenbacher.

The very striking resemblance between the species of this genus and those of *Celostethus* persists throughout almost every detail of structure, form and sculpture. The only character given in the books for their separation is the difference in antennal formation. In *Trypopitys* these organs are more or less serrate, with the outer joints less suddenly and conspicuously longer. The degree of serration varies somewhat, being more complete in the European *carpini* than in our species. It seems not to have been observed that the tibial spurs are entirely wanting in *Trypopitys*, a character elsewhere noted only in *Xarifa*. European authors place this genus in the Xyletinini on the strength of the serrate antennæ. This arrangement is a convenient one, but it entirely overestimates the importance of the antennal differences, which, it should be observed are nowhere in the Ptinidæ of more than generic significance. In every other respect *Trypopitys* is intimately related to *Celostethus* and must be associated with it.

Two closely allied species are known in our fauna, one inhabiting the eastern United States, the other the Rocky Mountains and Pacific Coast. They are distinguished as follows:

Pubescence throughout shorter and subrecumbent .....1. **sericeus**.  
 Pubescence longer and more bristling .....2. **punctatus**.

1. **T. sericeus** Say.—Oblong, nearly two and one-half times as long as wide, subcylindrical, brown; pubescence ochreous, short and recumbent. Head deeply sunk within the prothorax, the eyes nearly or quite covered in repose; front evenly convex, densely granulate. Antennæ less than half as long as the body, the outer joints not wider; first joint elongate, moderately stout; second small, quadrate; 3-6 triangular, the third nearly as long as wide, the others distinctly transverse; seventh a little longer and becoming parallel apically; eighth and ninth progressively longer and more oblong; tenth similar to the ninth, eleventh narrow and more elongate. Prothorax not quite as wide as the elytra, about as long as wide, sides parallel, broadly sinuate at middle, hind angles slightly sinuately retracted, nearly right and sharply defined; disk evenly convex, longitudinally sulcate at middle, the sulcus evanescent anteriorly; posterior transverse impressions well marked, but less deeper than in *Celostethus*; surface granulate. Elytra with regular series of approximate quadrate punctures; the intervals a little convex and not much wider than the punctures. Beneath ochreo-pubescent, the hairs somewhat longer than above; prosternum not distinctly carinate; metasternum closely granulate; abdomen annulate-punctate. Length 4.9-6.2 mm.



New Hampshire; Vermont; Massachusetts; New York; Pennsylvania; Virginia; Florida (Enterprise); Texas (Columbia); Michigan; Iowa; Indian Territory (Atoka).

2. ***T. punctatus*** Lec.—The description of *sericeus* applies almost perfectly to this species, which is only distinguished by its longer, more erect pubescence. The punctures of the elytral striæ are possibly a trifle smaller, but the difference is scarcely obvious. Length 4.5–6.5 mm.

Colorado (Glenwood Springs, Fenyès); New Mexico (Santa Fé, type, and Silver City); Arizona (Pinal and Chiracahua Mountains); California, numerous localities from Sylvania to San Diego.

It may be here remarked that *T. carpini*, the single European species upon which the genus was based, looks much like our species, but the antennæ are more uniformly serrate and the elytral punctures finer. The ventral punctuation, while of the same type, is sparser and less deeply impressed.

#### **COLPOSTERNUS** new genus.

Elongate, subcylindrical. Terminal joint of both labial and maxillary palpi very narrow and acuminate, not wider than the preceding joints. Antennæ 11-jointed, serrate, gradually narrower externally, the outer joints not elongated. Prothorax as wide as the elytra; the latter confusedly punctate. Front and middle coxæ distant; prosternum not carinate; metasternum moderately deeply but not abruptly excavated in front, the median line not sulcate behind. Posterior coxal plates not distinctly angulate. Ventral segments free; first, third and fourth subequal; second nearly as long as the third and fourth together; fifth a little shorter than the second; first suture broadly posteriorly arcuate at middle. Tarsi slender; the first joint of hind tarsus nearly four times as long as wide; second half the length of the first and fully three fourths longer than wide; third and fourth gradually shorter, the latter widest and deeply emarginate; fifth slender, twice as long as wide.

The single Pacific Coast species, for which this genus is created, was referred by Horn to *Trypopytis* on the strength of the serrate antennæ and excavate metasternum. As Horn remarks, the insect looks far more like an *Oligomerus*, but his further statement that there are no characters other than the elytral sculpture and the more explanate sides of the prothorax to separate it from *Trypopytis* is quite unwarranted, the palpal, ventral and tarsal formations being

entirely different. This genus does not fit very well in a linear arrangement, and is placed after *Trypophytus* rather from the convenience of tabulating it in this position, than from a conviction of the propriety of so doing.

1. **C. tenuilineatus** Horn.—Elongate, parallel, brown, sparsely pubescent. Head dull and minutely but not densely granulose; eyes moderate. Antennæ serrate; first joint arcuate, elongate; second globose; third triangular, about as wide as long; fourth to sixth transversely triangular, the outer angle acute; following joints gradually narrower and more elongate. Prothorax as wide as the elytra, sides rather widely margined, moderately convergent in front, hind angles obtuse and somewhat rounded, front angles right; disk elevated at middle posteriorly, the median line sulcate from the summit of the elevation to the front margin; an oblique impression each side extending from the middle to the base; surface sparsely granulate laterally, more densely along the median furrow. Elytra irregularly moderately closely punctate and with fine prostrate pubescence, which becomes condensed along the suture and in four fine equidistant lines on each elytron, the three inner ones uniting before the apex; there is also a short oblique scutellar line. Beneath finely pubescent, the metasternum minutely granulose, the ventral segments finely closely punctate. Length 3.3-5.4 mm.

Three specimens of this rare species are before me, bearing labels, Los Angeles County, California (Van Dyke); Los Gatos, California (Hubbard and Schwarz); and Santa Catalina Island, California, collected by myself. The type was described from Oregon.

#### XYLETININI.

The genera of this group are of elongate oval form as a rule, and have the contractile power fairly well developed. The prothorax is excavated beneath for the head, which is strongly deflexed in repose, the mandibles reaching the metasternum; the under surface of the head more or less impressed or deeply excavated, the antennæ curving into these cavities and resting against the contiguous front coxæ. The antennæ are variable in form, 11 jointed in our genera. The metasternum is not lobed in front; the trunk is not grooved for the reception of the middle and hind legs.

Our genera are six in number and separate as below:

Head merely broadly impressed beneath in front, not distinctly excavated for reception of the antennæ; metasternum not declivous anteriorly.

Three outer joints of antennæ elongate.

Antennal funicle strongly acutely serrate or even subpectinate, the outer joints not or but slightly narrower than the club, at least in the male; middle coxæ distinctly separated..... **Vrillella**.

- Antennal funicle feebly or scarcely serrate, middle coxæ contiguous or nearly so.
- Outer joints of funicle subequal in width to the club; terminal joints of palpi broad ..... **Euvrilletta.**
- Outer joints of funicle about one-half as wide as the club; terminal joints of palpi narrow..... **Xyletomerus.**
- Three outer joints of antennæ not elongate or only slightly so (*distantis*); antennæ strongly serrate..... **Xyletinus.**
- Head more or less deeply excavated beneath for the antennæ; metasternum declivous in front, either at sides or throughout its width.
- Antennæ serrate, outer joints not elongate, metasternal declivity abruptly limited behind by a raised line..... **Lasioderma.**
- Antennæ not serrate, joints 9-11 elongate; metasternal declivity more gradual and not limited posteriorly by a raised line—except partially in *simplex*..... **Megorama.**

Of the above genera only *Xyletinus* and *Lasioderma* occur in the palearctic fauna. *Metholeus*, represented by a single species in southern Europe, is close to *Xyletinus*, differing in its more truly cylindrical form, the prothorax not narrowed in front; the terminal joint of palpi emarginate at apex.

#### **VRILLETTA** LeConte.

The members of this genus are among the largest of our Anobiini. They are cylindrical, convex, robust, clothed with fine short appressed pubescence, and with finely striate elytra. The terminal joints of labial and maxillary palpi are similar, elongate, suboval, pointed, the inner side more strongly rounded. Antennæ not much longer than the median line of the prothorax; 11 jointed, the three outer joints larger, forming a club which is scarcely as long as all the preceding joints; first joint stout, rather more than twice as long as wide; second subglobose; third to eighth triangular, subequal in length but gradually more transverse, forming an acutely serrate or even subpectinate funiculus; joints 9 and 10 triangular or subtriangular, each about as long as the three preceding; eleventh elongate oval. Eyes small, separated by nearly four times their longest diameter, not appreciably larger in the male. Front strongly acutely margined at sides, obscurely carinate at middle; epistomal suture arcuate, scarcely impressed. Prothorax as in *Xyletinus*, but with the side margins more widely reflexed. Elytra finely striate as in *Xyletinus*, interspaces finely rugose and dull, the tip usually somewhat truncate. Prosternum excavated for the head, the latter scarcely impressed beneath. Front coxæ contiguous; middle coxæ

narrowly but distinctly separated. Mesosternum horizontal except for the ascending intercoxal process; metasternum not declivous in front; median line smoother and finely impressed posteriorly; hind coxal plates subparallel, a little dilated at their inner extremity. Third and fourth ventral segments subequal and a little shorter than the first and second, the fifth longest. Legs moderately stout; the front and middle tibiae concave on their outer margin; tarsi a little compressed, rather densely pubescent beneath, first joint subequal to the three following, terminal joint nearly as long as the two preceding and scarcely narrower.

Antennal stem subpectinate in the male, the first two joints of the club strongly acutely produced in both sexes.....1. **convexa**.

Antennal stem acutely serrate, the outer joints strongly transverse.

Eighth joint of antennæ as wide as the ninth in both sexes; first two joints of club elongate-triangular, the outer angle acute and a little produced; color blackish, elytra each with a small antemedian pale spot (sometimes lacking); prothorax rufous, more or less infuscate anteriorly.

2. **murrayi**.

Eighth joint of antennæ less strongly produced, subequal in width to the ninth in the male, but obviously narrower than the latter in the female.

Form less robust; brown or blackish brown, prothorax concolorous, elytra with or without a small antemedian pale spot; prothorax closely very minutely punctulate and with scattered larger subgranulate punctures.

3. **blaisdelli**.

Form more robust; uniformly dark brown (type) or variegated with pale vittæ, which are more or less confluent anteriorly and are subject to reduction; prothorax granulate-punctate, the interspaces densely finely punctulate; elytra distinctly truncate at apex..4. **expansa**.

Form more robust, brown, with short yellowish pubescence; prothorax not granulate, densely finely punctate and with scattered coarser punctures, which are larger and more shallow laterally; elytra not truncate at apex.....5. **laurentina**.

Form very robust; black, pubescence cinereous; prothorax densely rather coarsely punctate, the punctures becoming subgranulate toward the side margins; elytra very narrowly truncate at apex..6. **plumbea**.

1. **V. convexa** Lec.

This species differs from all others of our fauna in having the antennal funicle (fig. 12) subpectinate in the male. The processes of joints 4-8 are slender and subcylindrical, becoming gradually longer, the eighth joint three times as wide as long. The ninth and tenth joints are more elongate as usual, but instead of the usual triangular form they are produced inwardly somewhat after the manner of the funicular joints though to a less extreme degree. The

eighth joint is as wide as the ninth, the latter a little wider than the tenth, the eleventh longer and very narrow. The pronotum is granulate at sides, the punctures becoming small and deep at the middle, especially posteriorly; the interspaces scarcely perceptibly punctulate. The pubescence is rather better developed than elsewhere; the sides of the prothorax less widely margined and the elytral interspaces less flat. The elytral apices are narrowly but plainly truncate. In the only two males at hand the elytra are testaceous, with the suture and side margins dark. It is possible that this is the normal coloration in this sex. The females are uniformly dark brown, and differ otherwise from the male in their less strongly produced antennal joints which are, however, obviously wider than in the males of any other species. Length 6-7.75 mm.

California, occurs near San Francisco (Alameda County), but apparently not common. One example from Ensenada, Lower California, in my own collection appears to be identical.

2. **V. murrayi** Lec.—Black or nearly so, prothorax rufous, more or less infusate apically, elytra with or without a small antemedian rufous spot occupying the fifth to seventh interspaces. Antennal stem (fig. 13) acutely serrate, the outer joints very strongly transverse, the eighth as wide as the ninth in both sexes; ninth and tenth joints triangular, nearly twice as long as wide in the male, slightly less elongate in the female, the outer angle acute; eleventh joint longer and narrower, oval, pointed. The prothorax is finely not closely punctate, the punctures subgranulate, especially toward the sides; interspaces closely minutely punctulate. Elytra finely striate, the striae not evidently punctate, interspaces finely rugose, not granulate, apex narrowly truncate. Lower surface densely finely punctate, with scattered slightly coarser punctures as usual. Length 5-7 mm.

California, Marin and Napa Counties (Fuchs); Lake County (Van Dyke); Makelumne Hill (Blaisdell); Mt. Wilson, Los Angeles County (Fenyès).

The elytral spot is constantly present in all specimens from the more northern localities, and is as constantly lacking in those from Los Angeles County. The form in this species is a little more slender than in *convexa* and *expansa*.

3. **V. blaisdelli** n. sp.—Our smallest and narrowest species, though some males of *murrayi* are almost as slender. Dark brown throughout, the elytra with a small antemedian pale spot, which is rarely lacking. Eighth joint of antennae as wide as the ninth in the male, but plainly narrower than the latter in the female. The antennal funicle is acutely serrate, but with the joints less strongly produced than in *murrayi*; the outer angle in the first two joints of the club is

also less acute than in the latter species. In the male the ninth and tenth joints are very nearly twice as long as wide; in the female only about one-half longer than wide. Pubescence and sculpture nearly as in *murrayi*. Length 3.5–6.25 mm.

California, San Diego (Blaisdell); Los Angeles County (Fuchs); Pasadena.

This species can only be confused with *murrayi*; but if mature, the color, which appears to be very constant, should at once separate them. The antennal differences are distinct enough if both sexes are present. The species is dedicated with much pleasure to my friend, Dr. F. E. Blaisdell, of San Francisco, who has contributed the greater number of the specimens before me.

4. **V. expansa** Lec.—Moderately robust, dark brown or piceous, the elytra usually variegated with pale vittæ, which vary in number and development and are more or less confluent anteriorly. Pubescence, especially of the elytra, very short and inconspicuous. Prothorax widely margined, granulate-punctate over the whole surface, the interspaces between the punctures or granules densely, finely punctate. Elytra finely rugose as usual and with fine scattered granules, which are more distinct in the basal region; striæ very finely but obviously punctulate; apex more widely truncate than in our other species. Joints of antennal funicle moderately strongly transverse, but less produced inwardly than in any of the preceding species, the eighth joint as wide as the ninth in the male, narrower than the latter in the female. The first joint of the club is less triangular (more parallel) than in any other species, and with the following joint is as usual a little shorter in the female. Length 5.25–6.5 mm.

California (Mendocino, San Francisco and vicinity, Kaweah, Pasadena); Washington, Tenino (Schwarz).

All the above localities are represented by the variegated form which seems to be most common near San Francisco. The type of the species is entirely destitute of pale markings and is without definite locality. In the material at hand are two specimens ("Lake Tahoe and Tuolumne County"), which are also unicolorous brown. These may be and probably are identical with the type, but it is by no means certain that they are the same as the variegated form which has been thus referred in collections. The two examples above mentioned differ from each other in some degree and the question cannot be settled until additional material of both sexes shall have been received.

5. **V. laurentina** n. sp.—Robust, brown, clothed with fine pale flavate pubescence. Head and prothorax not at all granulose, the punctures of the latter becoming larger and shallow at sides instead of deep and perforate, the interspaces finely densely punctate. Elytral striæ noticeably punctulate, the interspaces somewhat convex; apex not truncate or almost imperceptibly so. Joints of an-

tenal stem moderately acute and about as in *expansa*; the eighth joint (fig. 15) being narrower than the ninth in the female (male not known). The ninth joint is just perceptibly longer than wide, broader at base than usual, thus resembling *expansa*; tenth joint triangular, a little longer than wide. Length 5.8-6.3 mm.

Two examples collected at Toronto, Canada (Crew), have been sent me by Mr. Wickham. The species differs from all others known to me by the simple punctuation of the head and thorax, and the almost completely nontruncate elytral apices. There is a narrow smooth median line on the pronotum which is also probably characteristic. The discovery so far to the east of a species of *Vrilletta*, a genus hitherto supposed to be peculiar to the Pacific Coast, is interesting and surprising. Thinking there might possibly be some error in locality I sent Mr. Crew a note of inquiry. He replied that he had taken these and several other examples, recently sold to Cornell University, from oak twigs, but that they seemed rare or very local, as he had widely searched his locality for others without success.

6. **V. plumbea** n. sp.—Very robust, black, sparsely clothed with fine, short cinereous hairs, which give a leaden lustre to the surface. Head and prothorax coarsely rather densely punctate, the latter with a few small scattered granules at sides. Elytral striæ finely punctate; apex very narrowly truncate. Antennæ (fig. 14) very similar to those of *expansa* and *laurentina*, but with the ninth joint more truly triangular and slightly longer than wide. Length 7.5 mm.

Two specimens only of this species have been seen (both probably females), one in the Horn collection from Mt. Shasta, California, the other collected by Mr. Wickham at North Yakima, Washington. The large size, robust form, color, and densely coarsely punctate thorax make the species easily recognizable.

#### **EUVRILLETTA** new genus.

This genus is structurally very closely allied to *Vrilletta* and might, perhaps, be regarded as a subgenus; the somewhat numerous species of the latter genus are, however, so perfectly homogeneous that I dislike to introduce a disturbing element. Briefly, the present genus differs from *Vrilletta* as follows: The antennal funicle is rather feebly serrate, the outer joints nearly as long as wide, the joints of the club more elongate and nearly parallel; the terminal joint of maxillary palpus triangular, a little longer than wide, the outer edge oblique, the inner angle rather narrowly rounded; terminal joint of labial palpus nearly as wide as long, broadly triangular, the



outer edge squarely sinuate-truncate, the inner side strongly rounded; middle coxæ subcontiguous. The prothorax is also more narrowly margined and the elytra more lightly striate; the tarsi relatively a little longer, the basal joint of the middle and hind tarsi a little longer than the three following, barely as long as the three following in *Vrilletta*. A single California species is known; it has quite the appearance of a large *Xyletinus harrisii*.

1. **E. xyletinoides** n. sp.—Cylindrical, convex, two and one-half times as long as wide; brown, surface feebly shining, clothed with fine short and rather sparse appressed fulvo-cinereous pubescence. Eyes not large, moderately convex, front wide, not at all carinate at middle, punctuation rather sparse and fine. Antennæ (fig. 16) nearly one-third the length of the body, first joint moderately short, elongate-oval, and a little arcuate; second short, obconic; third to eighth gradually shorter and wider, the third about twice as long as wide, the eighth slightly wider than long; ninth subequal to the four preceding and but little wider than the eighth, sides subparallel and a little sinuate; tenth similar to the ninth but slightly narrower; eleventh still narrower and a trifle longer, apex pointed. Prothorax transverse, rather strongly and evenly convex, sides moderately convergent anteriorly, margin narrowly explanate in front, becoming wider at the hind angles, which are rounded and undefined, front angles right; surface finely punctulate and with more distant larger punctures, which are, however, not coarse and show a tendency to become rugose. Elytra equal in width to the thorax, surface finely rather densely punctulate, lightly striate, the striae finely punctate. Under surface finely and closely punctate and finely pubescent. Length 5.4–6 mm.

California.

Three examples have been seen, one taken by Mr. Hopping at Kaweah, the other two by Dr. Fenyès in the Sierra Madre Mountains near Pasadena. There are no obvious antennal differences in the three specimens and it is probable that they are all males.

#### **XYLETOMERUS** new genus.

This genus is erected for a small California species which has the form, size and general appearance (except in color) of *Sitodrepa panicea*. Structurally it is most closely related to *Euvrilletta*, from which it differs in antennal and palpal formation as follows: The terminal joints of both maxillary and labial palpi are narrower, fully twice as long as wide, feebly dilated apically, with the outer edge strongly oblique. The antennal club is obviously longer than all the preceding joints, the joints of different form; the funicular joints not more than half as wide as the club, scarcely serrate.

Middle coxæ contiguous. The hind coxal plates are as in *Euvrilletta*. In most other points of structure *Xyletomerus* is substantially in agreement with *Vrilletta* and *Euvrilletta*.

1. **X. histrius** n. sp.—Elongate, two and one-half times as long as wide, parallel, moderately strongly convex, piceous brown, with fine fusco-cinereous recumbent pubescence, antennæ and legs rufous. Head finely not very closely punctate, occiput feebly carinate; eyes small, only moderately convex. First joint of antennæ (fig. 17) stouter as usual, second similar but smaller, third narrower and somewhat elongate; fourth to eighth similar, small, a little prominent interiorly; ninth triangular, about twice as long as wide, the outer angle a little obtuse; tenth similar to the ninth; eleventh about one-half longer than the ninth, oval. The club is evidently longer than the stem, the ninth joint equal to the five preceding or nearly so. Prothorax just visibly wider than the elytra at base, transverse, convex, moderately narrowed in front; side margin very narrow and only just perceptibly wider at the hind angles, which are broadly rounded; front angles nearly right and a little rounded at vertex; base feebly impressed each side of the middle; surface densely finely and punctate with scattered slightly larger punctures. Elytra with scarcely impressed finely somewhat distantly punctate striæ, interspaces nearly flat, finely closely punctulate. Lower surface finely closely punctate and finely pubescent. Length 2.9–3.2 mm.

California, Sacramento County (Koebele); Los Gatos (Hubbard and Schwarz).

Three examples only have been seen, one from the former and two from the latter locality. In one of them the joints of the antennal club are slightly more elongate; this is probably a male.

#### **XYLETINUS** Latreille.

Form more or less elongate, varying from oval to oblong; mentum trapezoidal, more or less arcuate in front; terminal joints of palpi compressed, elongate, feebly dilated apically, outer edge oblique, inner angle rounded; more broadly triangular in *harrisii*, entirely anomalous in *gracilipes*. Antennæ serrate or subpectinate, the outer joints scarcely or only slightly more elongate. Eyes variable in size, not emarginate. Front acutely margined laterally, epistomal suture arcuate, scarcely impressed. Prothorax transverse, hind angles broadly rounded and undefined, front angles nearly right and narrowly or scarcely rounded. Elytra striate. Prosternum deeply excavated for the head, the latter merely slightly impressed beneath; front coxæ contiguous; mesosternum horizontal and channeled at middle in front, becoming strongly ascending between the middle coxæ, which are separated by fully half their own width. Metasternum finely sulcate at middle, at least posteriorly; gradually

feebly declivous in front, the declivity not limited posteriorly by a raised line; side pieces wide. Ventral segments not very unequal, the first, second and fifth longer than the third and fourth; sutures straight. Legs moderate, tarsi rather stout and about two thirds as long as the tibiae as a rule; very slender and subequal to the tibiae in *gracilipes*; first joint equal to the two or three following.

Our species are divisible into two well defined sections, one of more oval form, with small eyes and generally more strongly serrate antennæ; the other more cylindrical, with large eyes and less strongly serrate antennæ. Nine species are known to me, separable as follows. The *puberulus* of Boheman is not included; I am unable to recognize it from the description and it is quite likely not a member of our fauna, notwithstanding the alleged locality, San Francisco.

Eyes larger and more convex, evidently larger in the male; width of the front from one and one-half to three and one-half times that of the eye as seen from the front; form of body more cylindrical.

Posterior raised margin of metasternal intercoxal process distinctly angulate.

Front (♂) fully three times as wide as the eye, pubescence fine and sparse, size large (5-7.5 mm.) .....1. **distans.**

Front (♂) about one and one-half times as wide as the eye, size small (2.5-3 mm.) .....2. **pallidus.**

Front (♂) twice as wide as the eye; pubescence dense, size moderate (3.5-6 mm.).....3. **mucoreus.**

Posterior raised margin of metasternal intercoxal process broadly arcuate.

Less robust, prothorax more parallel, the side margins very narrow and not at all reflexed; eyes of male relatively larger, the front scarcely more than twice as wide as the eye; third antennal joint (♂) about one-half longer than wide; last joint of maxillary palpus elongate, feebly triangular .....4. **peltatus.**

Stouter, prothorax less parallel, the side margins narrowly but evidently reflexed; eyes of male relatively smaller, the front about two and one-half times the width of the eye; third antennal joint (♂) scarcely longer than wide; last joint of maxillary palpus broadly triangular.

5. **harrisii.**

Eyes small, not very convex, scarcely perceptibly larger in the male, width of the front five or six times that of the eye as seen from the front; form of body more oval.

Tarsi normally stout, the fifth joint but little longer than wide; terminal joints of palpi compressed, triangular or elongate-securiform.

Antennæ acutely serrate, first two ventrals (♂) without line of erect hairs.

Head not at all strigose, sides of prothorax flattened, pubescence finer and sparser .....6. **fucatus.**

Head substrigose, sides of prothorax not flattened, pubescence rather dense and conspicuous .....7. **pubescens.**

Antennæ subpectinate in the male; the first two ventral segments ( $\delta$ ) with a median line of short, dense, erect hairs .....8. **lugubris.**

Tarsi very slender, the fifth joint about five times as long as wide; terminal joints of palpi not compressed, very elongate, subacicular; male antennæ subpectinate.....9. **gracilipes.**

1. **X. distans** n. sp.—Form parallel, moderately robust; brown, pubescence fine, sericeous, fulvocinereous, moderately plentiful. Antennæ about one-third as long as the body, first joint stouter, oval, second smaller but similar; third to tenth triangular, third longer than wide, the outer angle obtuse; fourth to seventh about as wide as long, the outer angle acute; eighth a little longer than the seventh and rather longer than wide, ninth about one-third longer than the eighth; tenth similar to the ninth; eleventh elongate-oval or fusiform, apex pointed. Terminal joints of palpi about one-fourth longer than wide, outer edge oblique, inner angle rather broadly rounded. Eyes moderately large and convex, width of front slightly greater than twice their vertical diameter in the female; surface of head shining and finely not densely punctate. Prothorax shining, sparsely finely punctate and minutely punctulate; side margins narrowly reflexed. Elytra finely rather closely punctate; lightly striate, the striæ finely somewhat distantly punctate. Beneath more densely finely punctate. Length 5-7.5 mm.

California, Pasadena (Fenyès); San Diego (Blaisdell).

Only three examples of this apparently rare species have been seen. It is our largest species and departs a little from the typical species of the genus in its slightly longer outer joints of the antennæ, forming a feebly defined club.

2. **X. pallidus** Lec.—Form narrow, oblong, nearly as in *peltatus*, but smaller; pale ferruginous, pubescence well developed. Antennæ strongly acutely serrate, "nearly as long as the body in the male;" eyes large and convex, width of front subequal to their vertical diameter in the male. Anterior margin of the metasternum angulate at middle, the angle a little obtuse and well defined. "Head and thorax densely punctulate, elytra equally densely and somewhat rugosely so;" elytral striæ fine, evidently punctate. Length 2.5-3 mm.

Lower California (Cape San Lucas).

The above short description is a transcript of some brief notes made upon the LeConte type and upon a second example from the same source in the Ulke collection, together with one or two points taken from the original description, the latter enclosed in quotation marks. The length of the antennæ as given by LeConte seems somewhat excessive, but I unfortunately neglected to investigate the accuracy of his statement.

3. **X. mucoreus** Lec.—Dark brown or piceous, legs dark rufous, antennæ and palpi paler; form precisely as in *peltatus*, with which it is closely allied, differing only as follows: Pubescence much denser and more sericeous; eyes larger,

separated on the front in the male by only about one-third more than their vertical diameter; antennæ a trifle more acutely serrate; anterior raised margin of metasternum distinctly angulate at middle. Length 3.5-6 mm.

This species has been found only in the southern portions of our territory, occurring from Florida (Haw Creek) to Louisiana (Covington) and Texas (Columbus and Brownsville).

The above measurements are the extremes in the series of nine specimens before me. LeConte's type from Louisiana (in the Ulke collection) is a little larger than the largest of these, but seems to be identical. As stated by LeConte the head is a little more evidently impressed beneath than in *peltatus*.

4. **X. peltatus** Harris.—Brown, or reddish brown, elongate-oblong, pubescence fine, sericeous, pale fulvous, moderately plentiful but not concealing the surface color. Terminal joints of both maxillary and labial palpi elongate, fully twice as long as wide, very little dilated apically, the apex strongly oblique and pointed, the inner angle broadly rounded. Antennæ moderately serrate, joints 3-10 triangular, the third and outer joints a little elongate, the intermediate ones about as wide as long, terminal joint elongate-oval or subfusiform. Eyes large and convex, the width of the front much less than twice their vertical diameter in the male, and a little greater than twice their vertical diameter in the female. Head finely rather densely punctate, feebly obtusely carinate at middle. Prothorax transverse, moderately narrowed in front, disk convex, broadly impressed each side before the basal margin, leaving the median line more convex; side margin very narrow, not reflexed; surface rather dull, finely sparsely punctate, the interspaces densely minutely punctulate. Elytra finely closely punctate and with fine lightly impressed striae which are finely not closely punctate. Beneath densely finely punctured and pubescent; anterior raised marginal line of metasternum broadly arcuate at middle. Length 3.4-5 mm.

Occurs throughout the eastern United States from Canada to Texas. The following localities are represented in the material studied. Massachusetts, New York, Pennsylvania, Maryland, District of Columbia, Virginia, North Carolina, Georgia, Canada, Ohio, Kentucky, Illinois, Louisiana, Texas.

5. **X. harrisii** n. sp.—There is nothing of moment to add to the characters given in the table for the separation of this species from *peltatus*. The two have hitherto been confused in collections, though abundantly distinct. It is quite impossible to determine with certainty to which the name *peltatus* was originally given, but I have used it for the species now bearing this label in the LeConte collection. Length 3.7-5.5 mm.

*Harrisii* is less widely distributed than *peltatus*, being more exclusively northern in range. The following localities are known to me: New Hampshire, Massachusetts, New York, New Jersey, Pennsylvania, Kentucky, Ohio, Michigan, Canada.

6. **X. fucatus** Lec.—Elongate-oval, varying in color from rufotestaceous to black. The thorax is rarely rufous, with the elytra black, suture rufescent, or the elytra may be paler than the thorax. Pubescence fine, short and rather sparse. Terminal joint of maxillary palpus elongate, form nearly as in *peltatus*; terminal joint of labial palpus similar but a little less elongate. Antennæ acutely serrate, the intermediate joints almost twice as wide as long in the male, slightly wider than long in the female. Eyes small, not prominent, separated on the front by about five times their longest diameter; head densely, subrugosely punctate and vaguely obtusely carinate. Prothorax strongly transverse, median line feebly elevated at base, sides flattened and explanate but scarcely reflexed, moderately arcuate, the hind angles broadly rounded; surface densely finely punctured and with shallow larger punctures, which are usually sparse or even scarcely evident at the middle, but become predominant at sides. Elytra finely alutaceo-rugose, deeply, finely striate, the striae scarcely evidently punctate, intervals nearly flat, at least on the disk. Metasternum coarsely rather closely punctured, finely sulcate at middle; ventral surface finely punctate. Length 2.5–5 mm.

Very widely dispersed, occurring throughout the northern United States and Canada, and extending down the Pacific Coast to Southern California. It is apparently rare in New England, and I have seen no specimens from New York, although it must occur there. It is given in Smith's New Jersey list as rare in the Orange Mountains, but does not appear in either the Washington or southwestern Pennsylvania lists. Dury records it from Cincinnati, and I have seen it from Illinois, Canada and various localities in Michigan and the Lake Superior region, the latter being the type locality. Other localities represented before me are Kansas; Brownsville, Texas; Colorado, Wyoming, Washington State and California, as far south as San Diego.

A good deal of variation within somewhat narrow limits is observable in the material at hand, and I have little doubt that several closely allied species are involved; I am, however, quite unable to define them at present. Among the Californian representatives alone there are no less than five forms that are possibly good species, but they are either present in single specimens or in one sex only, or are connected by intermediates in such a way that nothing definite can be said.

7. **X. pubescens** Lec.—Oval, convex, piceous throughout or with the elytra dark rufous, integuments opaque, pubescence yellowish gray and rather dense. Antennæ broadly acutely serrate; eyes small, remote, not prominent; head longitudinally densely substrigose, not carinate. Prothorax very convex, side margins not at all flattened or reflexed, surface densely finely subrugosely punctured. Elytra deeply finely striate, striae not evidently punctured, inter-

spaces nearly flat, finely rugulose. Beneath densely punctulate and pubescent. Length 2.7-3 mm.

Texas, Bosque County—Belfrage.

A small stout species with very convex prothorax, which, unlike all the other small eyed species, is not at all flattened at sides, the margin very narrow. The pubescence is denser than in any other of the allied forms, except *gracilipes*, which is more elongate and otherwise very different as indicated in the table.

8. **X. lugubris** Lec.—Allied to *fucatus*, but smaller and more elongate. The antennæ are subpectinate in the male, acutely serrate in the female, the intermediate joints in this sex being about as strongly transverse as in the male of *fucatus*. The sides of the thorax are a little less flattened and somewhat less strongly rounded than in *fucatus*; sculpture and vestiture nearly as in the latter species. The line of erect hairs on the first two ventral segments in the male is peculiar to this species. The color is black in all specimens seen. Length 2.5-3 mm.

Massachusetts (Tyngsboro); Michigan (Detroit and Marquette); Nebraska (LeConte collection).

9. **X. gracilipes** n. sp.—Elongate-oval, black; finely subrugosely punctured and dull; pubescence cinereous, dense. Antennæ subpectinate, nearly as in *lugubris* and in *Vrilletta convexa*. Terminal joints of palpi not compressed, very slender and elongate, acicular. Eyes small, not prominent, vertex obscurely subcarinate. Prothorax strongly transverse, side margin moderately reflexed. Tarsi very slender, slightly compressed, first joint subequal in length to the two following; second three-fourths as long as the first, third and fourth very short, together shorter than the second; fifth very elongate, subequal to the second and about five times as long as wide. Length 3.6 mm.

Described from a single example from Wyoming, submitted by Mr. Schaeffer. The facies of this species is in every respect that of typical *Xyletinus*, and it is therefore placed here for the present, notwithstanding the anomalous palpal and tarsal formation, which would perhaps warrant its separation as a distinct genus.

### **LASIODERMA** Stephens.

Form oval, more or less elongate, moderately convex, pubescence moderate, subrecumbent. Terminal joints of palpi elongate, subparallel, the apex obliquely truncate. Antennæ serrate, but less strongly so than in *Xyletinus*, the outer joints not more elongate. Head rather large, deeply excavated beneath, with a posterior mediangular prominence; eyes small; epistomal suture arcuate, scarcely impressed. Prothorax evenly, strongly convex, front angles acute,



or right, hind angles wanting; beneath deeply excavated for the head. Elytra not striate, punctuation confused. Prosternum very short before the coxæ, the latter and also the middle coxæ contiguous; metasternum rather short, not sulcate, suddenly declivous in front from side to side, the declivity limited by a raised line which does not extend upon the episterna; posterior margin sinuately prominent at middle, the prominence minutely notched; hind coxal plates gradually wider posteriorly. First ventral segment subequal to the fifth and a little longer at middle than the second; third and fourth shorter, equal; first ventral suture finer than the others and broadly arcuate posteriorly, thus narrowing the second segment at middle. Legs rather slender; tibiæ, at least the two anterior, compressed and grooved on the outer edge; first tarsal joint equal to the next two or three, fifth joint a little elongate. The tibiæ appear to have only a single terminal spur in the specimens examined, but the spurs are very difficult to see clearly and this observation needs verification.

Five species are known to me from our fauna, of which the largest is the well known cosmopolitan *serricorne*, the so called cigarette beetle. Our other species are all as yet very rare in collections.

Metasternum without obliquely transverse raised line posterior to that bordering the anterior declivity.

Form more oblong, prothorax four-fifths as long as wide, color entirely piceous.

**1. dermestinum.**

Form more oval, prothorax strongly transverse.

Size much larger, color rufotestaceous or brownish red, rarely darker.

**2. serricorne.**

Size smaller, piceous, head and thorax rufous . . . . . **3. bicolor.**

Metasternum with fine obliquely transverse raised line at middle.

Piceous brown, head, thorax and lower surface rufous . . . . **4. semirufum.**

Entirely rufotestaceous, size somewhat greater . . . . **5. hemiptychoides.**

**1. L. dermestinum** Lec.—Quite strongly oblong; narrower and more convex than *serricorne*; color uniformly brownish piceous, antennæ and feet paler. Prothorax about four-fifths as wide as long, slightly narrower in front; hind angles indicated but the vertex rounded; front angles right. Pubescence fine, gray, less developed than in *serricorne*; surface finely punctulate, the punctures sparsely intermixed with slightly larger ones. Length 2.75–3.25 mm.

Lower California (Cape San Lucas).

The only specimens seen are those in the collections of LeConte and Ulke, and I know of no specimens other than those taken many years ago by Xantus.

2. **L. serricorne** Fab.—Elongate-oval, moderately convex, rufotestaceous or brownish red, pubescence moderate, subrecumbent. Head broad, eyes small, not prominent; antennæ rather narrow, first joint large, second and third smaller, the latter distinctly triangular; fourth to tenth about as wide as long, the intermediate ones slightly widest; eleventh oval, slightly longer than the tenth. Punctuation of entire upper surface fine, uniform, not dense, the punctures separated by from one to two times their own diameters. Anterior tibiae distinctly widened and compressed toward the apex, the outer apical angle obtuse. Length 2.2-3 mm.

Widely dispersed over the globe by commerce, occurring more commonly in and about commercial centers. It depredates like *Sitodrepa panicea* on a variety of dried vegetable products, but is especially injurious to tobacco.

The following localities are represented in the material studied: Massachusetts, New York, Pennsylvania, Michigan, Florida, Texas, Louisiana, California.

3. **L. bicolor** n. sp.—Differs from *serricorne* very little in sculpture and vestiture, but is a little broader, uniformly smaller, and differently colored, the head, prothorax and appendages being always rufous, the rest of the body piceous. Length 1.5 mm.

Peekskill, New York (Sherman); Pennington Gap, Virginia (Hubbard and Schwarz).

Three examples only; one from the former locality in my own collection and two from the latter in the National Museum collection.

4. **L. semirufum** n. sp.—Rather more elongate than *serricorne* and much smaller. The elytra are piceous-brown, the head, prothorax, under surface and appendages rufous. Sculpture and vestiture as in *serricorne*, except that the pubescence is a little shorter and more truly recumbent and the punctuation a little sparser. Length 1.5 mm.

Pennsylvania, District of Columbia, Maryland, New Jersey (Anglesea); Ohio (Cincinnati).

Nearly similar to *bicolor* in coloration, but narrower and with a fine raised metasternal line extending from the side margin obliquely inward and backward, becoming evanescent toward the middle of the metasternum, where it bends slightly forward.

5. **L. hemiptychoides** n. sp.—Very closely allied to *semirufum*, from which it differs in no notable way, except color and somewhat larger size. The form seems to be just perceptible narrowed posteriorly, parallel in *semirufum*, the pubescence more prostrate and slightly less sparse, the punctuation of the head a little finer and sparser, while that of the elytra is perhaps a little closer than in *semirufum*. The fascies is strikingly like some of the smaller species of *Catorama* (*Hemiptychus*). Length 1.3-1.9 mm.

New Jersey (Anglesea); Maryland (Bladensburg).

**MEGORAMA** new genus.

Form robust, cylindric oval, terminal joint of maxillary palpi a little elongate, obliquely truncate, the inner angle broadly rounded; terminal joint of labial palpi similar but a little wider. Antennæ 11-jointed, stem not serrate, three outer joints enlarged, varying in form sexually and specifically. Eyes nearly as small in the female as in *Xyletinus*, obviously larger in the male; front strongly acutely margined over the antennæ; epistomal suture arcuate, not impressed and indistinct. Prothorax transverse, disk broadly but obviously gibbous posteriorly when viewed in profile (feebly so in *ingens*); front angles right or a little acute, hind angles broadly rounded, side margin narrowly reflexed in front becoming somewhat wider posteriorly. Elytra confusedly punctate, not striate. Head deeply excavate beneath for the antennæ; front and middle coxæ contiguous; metasternum declivous anteriorly from side to side, the declivity not margined posteriorly, except at the middle in *simplex*; episterna broadly exposed, wider and declivous in front; hind coxal plates feebly dilated internally; first, third and fourth ventral segments subequal, second a little longer, fifth still longer; sutures nearly equally strong, but the first segment as usual lacks the short marginal fringe, which protects the connecting membrane in the other sutures, indicating that the first two segments are really more or less connate. Legs moderately stout, all the tibiæ grooved externally; basal joint of tarsi equal to the next two; the second equal to the two following; terminal joint about as long as the second.

Pubescence of upper surface entirely recumbent; prothoracic disk granulate at middle, elsewhere simply punctate.

Anterior declivity of metasternum limited posteriorly by a raised line which is distinct at middle but becomes obsolete externally. . . . 1. **simplex**.

Anterior declivity of metasternum not limited posteriorly by a raised line.

First ventral segment not carinate at middle; antennal club pectinate in the male . . . . . 2. **frontalis**.

First ventral segment acutely longitudinally carinate at middle (male not known) . . . . . 3. **viduum**.

Pubescence of upper surface intermixed with short erect hairs; prothorax granulate over nearly its entire surface. . . . . 4. **ingens**.

1. **M. simplex** Lec.—Elongate oval, convex, blackish brown, with fine sericeous yellowish gray pubescence, which is uniformly recumbent. Antennæ in the male with the first joint curved and moderately dilated, the second longer and thicker than the third; third to eighth equal in thickness, the third longer, the others about as long as their width; ninth and tenth large, compressed, tri-

angular, ninth as long as the five preceding united, tenth a little longer; eleventh as long as the tenth and a little narrower, oval, rounded at the tip. In the female the three outer joints are smaller, less broadly triangular, with the outer angle not acute, the tenth joint not longer than the ninth. Head finely evenly densely punctate; prothorax acutely granulate on the disk, the surface elsewhere finely, densely, simply punctate and alutaceous; elytra closely evenly punctate. Metasternum granulate at sides. Length 3.5-4.5 mm.

"Two specimens collected in Kentucky by Mr. J. H. Wild."

So far as I can ascertain there are no specimens of this species in collections other than the LeConte types. The occurrence of three other species of this genus in California, with none—so far as known—in the intervening territory is a somewhat remarkable instance in distribution, which is, however, closely paralleled in *Vrilletta*.

2. **M. frontalis** Lec.—Oblong-oval, dark brown or fuscous, with fine sericeous prostrate pubescence. Antennæ (♂) with the first joint stouter and curved as usual, second and third much smaller, elongate, the third a little more slender; fourth and fifth subequal and a little longer than wide, sixth to eighth transverse, together equal to the fourth and fifth united; ninth and tenth as long as sixth to eighth, and with an inner branch which is subequal in length to joints 1-8; eleventh slender and fully as long as the branches of the two preceding joints. In the female the ninth and tenth joints are moderately elongate, triangular, the eleventh elongate-oval. Head densely, finely punctulate. Prothorax granulate at middle of the disk, which is a little prominent posteriorly; surface elsewhere densely, evenly, rather finely punctate. Elytra finely closely punctate, with somewhat coarser punctures, which tend to arrange themselves in barely visibly impressed lines. Metasternum polished and not very closely punctate at middle, subalutaceous and moderately closely punctate laterally, the punctures somewhat unequal in size. Ventral surface moderately closely finely punctate. Length 3.25-5 mm.

Southern California, Santa Barbara (type); Pasadena. Occurs, though not common, at the latter place in May and June on *Quercus agrifolia*.

3. **M. viduum** n. sp.—Similar in most respects to *frontalis*, but of somewhat larger size. Antennæ (♀?) nearly as in *frontalis*, but with the ninth and tenth joints a little more elongate, about twice as long as wide, the outer angle a little less acute; coarser punctures not evident on the elytra; first ventral segment carinate at middle, the carina beginning on the intercoxal process and not quite reaching the apical margin. Length 4.75-6.25 mm.

California, Anderson Springs, Lake County (Fuchs); Los Angeles County (Coquillet); Claremont (Baker).

One example from each of the above localities. Judging from the small eyes, which do not vary appreciably in the three speci-

mens, they are probably all females, it is therefore not possible to say if the carinate ventral is a sexual character; I am quite confident, however, that it is not. The form of the antennal club is so variable in the genus, that it would be mere guess work to predict its form in the male of the present species.

4. *M. ingens* n. sp.—Robust, subcylindrical, convex, moderately densely clothed with pale yellowish recumbent pubescence, intermixed throughout with very short suberect hairs of the same color. Antennæ (♂) with joints 1-8 as usual, ninth and tenth narrowly triangular, about twice as long as wide, the outer edge sinuate, the outer angle acute; eleventh distinctly longer, slender, subparallel, the apex acutely rounded; ninth and tenth joints united as long as the entire stem. In the female the ninth and tenth joints are more broadly triangular, about one-half longer than wide, the outer edge not or scarcely sinuate, eleventh oval; ninth to eleventh united, barely equal in length to the stem. Head finely closely punctate. Prothorax less obviously gibbous than in the preceding species; entire surface with larger punctures and granules, the interspaces minutely punctulate. Elytra finely, moderately closely punctate, with numerous larger punctures. Beneath moderately closely punctured, the punctures of two sizes as above. Length 6.5-8 mm.

California, San Diego (Blaisdell); Pasadena (Fenyès).

This fine large species is quite distinct from all others of the genus by its dual system of pubescence and punctuation. Two examples in the Horn collection bear the label *frontalis*, and it is quite possible that both *ingens* and *viduum* may be present in other collections under the same name.

#### DORCATOMINI.

Broadly speaking, the members of the present tribe are distinguished from all others by their highly developed contractile power. The antennæ (except the basal joint) and oral organs are completely shut in in repose, the head being strongly deflexed and received into a deep cavity in the prothorax, and the legs are withdrawn into appropriate excavations of the trunk. The form is usually broadly oval, varying in one direction to elongate oval or oblong in *Eupactus* and *Petalium*, and in the other direction to the rotundate form of *Cenocara*. Head excavated beneath for the antennæ or not. Antennæ varying from 8 jointed to 11-jointed, the three outer joints forming a conspicuous club of variable form, the intermediate joints often very small and indistinct. The front coxæ are sometimes contiguous, in which case the antennæ are received between them and the more or less impressed or excavated under surface of the head;

or they may be widely separated, the antennæ received between them and extending upon the concave and recessed surface of the metasternum. Metasternum frequently produced between the middle coxæ into a broad lobe which is commonly narrowed behind by deep grooves which receive the middle tarsi. First ventral segment excavated (rather feebly in *Petalium*) for the hind feet, and usually only visible narrowly at the middle. Legs rather slender, the tibial spurs small or wanting; tarsi rather robust and usually very short.

As here constituted this tribe assumes a far greater complexity than it possesses in the LeConte and Horn Classification, where only the three genera *Dorcatoma*, *Cenocara* and *Byrrhodes* are referred to it. In an attempt at an orderly arrangement of our genera of Anobiinæ the most puzzling problem that arises is the proper disposition of the genera *Petalium*, *Theca* and *Eupactus*. LeConte, while recognizing a certain affinity with the Dorcatomini, chose to regard them as aberrant members of the Anobiini, his most cogent reason being that the mandibles do not lie in close apposition to the metasternum in repose as is the case in both the Xyletinini and Dorcatomini as defined by him. At the beginning of his paper LeConte says, "Considering the variation in form and structure of the antennæ in genera which are evidently closely related I have regarded the manner in which the body is contracted in repose as of fundamental importance in the classification of the genera." This basis for classification is an eminently rational one in the present family, but the author is evidently following the letter rather than the spirit of the principle involved when he places in the Anobiini, genera like *Theca* and *Eupactus*, in which the body is as perfectly contractile and the members as completely protected as in *Dorcatoma* or *Cenocara*. Mulsant and Rey in their admirable work on the Térédiles of France divide the Anobiinæ primarily into the "Anobiens" and "Dorcatomiens" the latter being sharply separated from the former by the possession of metasternal and ventral pits for the reception of the four posterior feet. This method of division has been accepted by subsequent European authors, and I am convinced after a careful study of our own genera that it is the most simple as well as the most natural means of defining the Dorcatomini. *Theca* then should be returned in our classification to the latter tribe where it was originally placed by Mulsant and Rey. By the same reasoning *Eupactus* and *Petalium* should pass to the same tribe, as should also

*Catorama* and *Protheca*, placed by LeConte in the Xyletinini. Granting that *Petalium*, *Theca* and *Eupactus* should be included in the Dorcatomini, what then is their relation to each other and to the other genera of that group. The three genera in question possess in common a peculiar character which was noted by LeConte in *Theca* and *Eupactus*, but was evidently overlooked in *Petalium*, in which, indeed, it is more feebly developed. This consists of the expansion of the apices of the anterior coxæ into flat transverse horizontal plates which are coarsely sculptured and form a portion of the exposed lower surface of the insect when contracted. The articulation of the trochanter with the coxa is posterior rather than apical, and the mandibles lie in contact with the coxal plates in repose. This extraordinary structure seems of sufficient importance to warrant the close association of these genera, but it must be admitted that there is little else that indicates either mutual relationship or any close affinity to the other genera of the tribe. The singular structure of the antennal club and the double ventral sutures in *Eupactus*, the mesosternal structure in *Theca* and the enormously developed metasternal lobe in *Petalium* are all characters so unique in kind or in degree of development as to show a somewhat unusual individuality within tribal limits. I have placed these three genera at the head of the Dorcatomini, though recognizing that they constitute an obvious interruption to an orderly sequence of genera, *Lasioderma* and *Megorama* of the Xyletinini forming a natural transition to *Catorama* and *Cryptorama* of the Dorcatomini. They seem equally out of place, however, in any other position, and since we cannot avoid the necessity of a linear arrangement it has seemed best to give them their present position because of a certain affinity to the Anobiini discernible in the elongate form, feebly elevated disk of the prothorax, internally widened posterior coxal plates and the less deeply excavated first ventral segment of *Petalium*.

Our fauna is far richer than the European in this tribe, which is there represented by seven genera and thirty species as compared with our eleven genera and upward of one hundred species. Of the European genera, four—*Mesotheca*, *Mesocaelopus*, *Anitys* and *Eutheca*—do not appear with us. Both *Mesotheca* and *Mesocaelopus* differ from all our genera in the uniformly serrate antennæ without enlarged outer joints; the former is elongate, the elytra with a sin-



gle lateral stria, the latter oval, without lateral striae. I have seen no example of *Mesothos*, but specimens of *Mesocorolopus collaris* resemble rather strongly certain species of *Cryptorama*, and the genus should stand between *Catorama* and *Cryptorama*, from the latter of which it differs, aside from antennal formation, in its rather widely exposed met-episterna. *Eutheca* is also unknown to me in nature, but from description it must be very close to if not identical with our *Eupactus*, in which case LeConte's name being the older must prevail.

*Anitys* should follow *Eutylistus* in our arrangement. It differs from the latter in its very strongly globose form, sides of pronotum without marginal bead, tarsal joints gradually decreasing in width, short recumbent pubescence, and in several other respects.

Our genera may be tabulated as follows :

Anterior coxæ expanded at apex into transverse horizontal plates, which are not concealed in repose; the articulation with the trochanter posterior.

Metasternum with broadly expanded anterior lobe which covers the mouth in repose; hind coxal plates wider internally ..... **Petalium.**

Metasternum with a short anterior lobe which does not reach the mandibles.

Anterior coxæ distant; two outer joints of antennal club closely united; mesosternum depressed; hind coxal plates wider externally.

#### **Eupactus.**

Anterior coxæ contiguous; two outer joints of antennal club normally separated; mesosternum strongly elevated into a central keel, which is horizontal and attains the level of the metasternum; hind coxal plates narrow and parallel ..... **Theca.**

Anterior coxæ not expanded into apical plates, and entirely shut in in repose; the articulation with the trochanter apical.

Anterior coxæ contiguous. head impressed or excavated beneath for the antennæ.

Elytra with confused punctuation; metasternum not lobed in front; epipleuræ not foveate for the hind knees; ventral sutures straight.

Antennæ 10-jointed; mesosternum with intercoxal hook-like process; metasternal episterna widely visible ..... **Catorama.**

Antennæ 11-jointed; mesosternum without intercoxal hook; metepisterna concealed, or at most very narrowly visible posteriorly.

#### **Cryptorama.**

Elytra striate punctate; metasternum deeply narrowly excavated for the middle tarsi, causing it to appear broadly lobed in front; epipleuræ foveate for the hind knees; ventral sutures arcuate at middle.

Metepisterna narrow, parallel; pubescence appressed.

#### **Stichtoptychus.**

Metepisterna narrowly triangular; pubescence more or less bristling.

#### **Protheca.**

Anterior coxæ widely distant, the antennæ received between them.

Prosternum produced behind into two long slender horn like processes; antennæ 10-jointed ..... **Dorcatoma.**

Prosternum truncate-emarginate behind; antennæ 8-, 9-, or 10-jointed.

Eyes minutely emarginate.

Elytra without discal striæ..... **Etylistus.**

Elytra with discal striæ ..... **Byrrhodes.**

Eyes deeply acutely incised, the fissure extending to or beyond the middle.

**Cenocara.**

### **PETALIUM** LeConte.

The chief structural character of this genus, and one by which it may be distinguished from all others, is the strongly produced and broadly expanded metasternal lobe; but aside from this the species possess a perfectly characteristic facies which makes them easily recognizable. The form is parallel, more or less elongate, rather strongly convex, with sparse or moderate recumbent pubescence. Head deeply sunk in the prothorax, not visible from above, eyes moderate in size, though larger in the male, not very convex. Antennæ about one-third the length of the body, 11-jointed, the first joint long and moderately thick; second globose, as wide as the first; third and fifth transversely triangular; fourth, sixth and seventh much narrower and smaller, the seventh usually evidently larger than the sixth; eighth smallest; ninth and tenth similar, triangular, longer than wide, and each about as long as joints 3-8 inclusive; eleventh a little longer, oval, pointed. Joints 9-11 are together as long as or somewhat longer than all the preceding. Terminal joint of both maxillary and labial palpi moderately elongate, with nearly parallel sides, the apex bidentate because of a deep semi-circular emargination. Prothorax as wide as the elytra, sides parallel, hind angles sharply defined and nearly right, front margin thickened and a little reflexed, disk at most feebly gibbous at middle with shallow oblique impressions at each side. Elytra punctate striate, punctures becoming smaller or nearly disappearing at apex, the two outer lines more deeply impressed. Prothorax strongly excavated beneath for the reception of the head; prosternum short, front coxæ widely separated, their summits forming small, very narrow transverse plates, the articulation with the trochanters posterior. Mesosternum deeply abruptly excavated longitudinally, invisible without dissection. Metasternum large, produced between the middle coxæ in a broadly expanded lobe which covers the mouth and anterior tarsi in repose, transversely grooved

in front for the reception of the middle tibiae and tarsi. Epipleurae foveate for the middle and hind knees. First ventral segment short, the hind feet received in shallow impressions; second segment long, usually but little shorter than the three following united; fifth a little longer than the third or fourth, which are subequal. Femora and tibiae subequal in length and rather slender; tarsi short, about one third the length of the tibiae, first joint longer than wide, the following joints transverse, the fifth strongly dilated.

In all of our species except *schwarzi* there is a short arcuate and oblique deeply impressed line at the sides of the prothorax behind the front angles. In *schwarzi* this arcuate impression is reduced to a small deep fovea near the middle of the side margin.

Attention has been called under *Ozognathus* to the fact that the genus *Micranobium* of Gorham is composite and unnecessary, his *exiguum* being an *Ozognathus* and *pulicarium* a *Petalium*. M. Pic\* who now possesses the greater part of the Gorham collection has noted the close similarity between *M. pulicarium* and the Syrian *Rhadine*† *parmata*, and properly concludes that they are generically identical; but he, like Gorham, appears to be ignorant of the earlier *Petalium* Lec., the description of which is perfectly characteristic. This genus is thus seen to be widely dispersed and is especially well developed in the American continent. In addition to the species described by Gorham from Central America, Pic alludes to a number of others in his collection from Mexico, Brazil and the Argentine Republic. To these, names are given, but the characterizations are insufficient for their acceptance unless supported by further description. In our own fauna there is a considerable number of species, but just how many it is impossible to say; for these little things conform so closely to type while exhibiting a remarkable amount of variation in minor details that specific limits must for the present be in a measure opinionative. Six forms are described below, most of which seem separable with a fair degree of certainty. *Bistriatum* is, however, still very complex, and it and *seriatum* approach one another very closely in some of their variations.

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\* L'Echange, No. 227, Nov. 1903, p. 171.

† The name *Rhadine* is preoccupied as well as a synonym, having been used by LeConte for a section of *Platynus*.

Second ventral segment but little longer than the third and fourth united, and slightly shorter than the metasternum at sides.

Black, shining, subglabrous; form relatively stout, prothorax evenly convex without oblique discal impressions . . . . .1. **schwarzi**.

Second ventral segment not much shorter than the three following united, and more or less evidently longer than the metasternum at sides.

Elytral interspaces with a single series of smaller but distinct punctures; pronotum more coarsely, less densely punctate; second ventral segment conspicuously longer than the metasternum at sides. . . . .2. **yuccae**.

Elytral interspaces usually with fine confused punctuation, which is often indistinct; pronotal punctuation denser and finer; second ventral segment less obviously longer than the metasternum at sides.

Punctures of elytral series strong, close set, and distinct quite to the apex, though becoming finer posteriorly as usual; the two lateral striae less conspicuously deeper than the discal.

Form a little stouter; stem of metasternal lobe relatively wider (Atlantic States) . . . . .3. **seriatum**.

Form narrower, stem of metasternal lobe narrower, about half as wide as the lateral portion of the lobe. . . . .4. **californicum**.

Punctures of elytral series finer, less close set, and becoming nearly obsolete apically; the two lateral striae conspicuously deeper.

Form narrower; metasternum sulcate in posterior half; color usually nearly black, with legs and antennae rufous or yellowish.

5. **bistriatum**.

Form wider; metasternal sulcus obsolete; color brown. .6. **brunneum**.

1. **P. schwarzi** n. sp.—Black, shining, and almost completely glabrous; form more robust than usual. Head not reticulate-punctate, the punctures in mutual contact anteriorly, but distinctly separated on the occiput. Eyes rather small, width of front between them from one and one-third to one and one-half times their vertical diameter. Prothorax evenly convex, without trace of discal oblique impressions; front margin not evidently thickened or reflexed, lateral arcuate impressed line reduced to a small perforate marginal fovea; punctures close at sides and in front, evidently separated on the disk and posteriorly. Elytral striae completely unimpressed, except the two lateral ones, the striae punctures fine and equal from base to apex and scarcely larger than those of the interspaces, with which they tend to become somewhat confused, especially toward the suture. Metasternum rather strongly simply punctate, not at all reticulate; abdomen more finely and closely punctate, the punctures unequal in size. Second ventral segment scarcely as long as that portion of the metasternum at sides between the anterior transverse groove and the hind coxal plates. Length 1.4–1.7 mm.

Victoria, Texas. Collected by Mr. Schwarz.

In two of the four examples before me the eyes are slightly larger and the front correspondingly narrower, as indicated in the description above; these are doubtless males.

The form is more robust than in any other species known to me, the length being only slightly greater than twice the width, and

this combined with the black polished glabrous surface, evenly convex thorax with front margin not thickened, strong but simple punctuation of the head, pronotum and metasternum, and fine subconfused punctuation of the elytra, make this species at once recognizable and mark it as widely distinct from all others of the genus. I have with great pleasure dedicated this interesting addition to our fauna to Mr. Schwarz.

2. **P. yuccæ** n. sp.—Blackish brown, opaque, nearly as robust as *schwarzi* and distinctly stouter than any of the following species. Head coarsely densely punctate, front about one-third wider than the vertical diameter of the eye. Pronotum coarsely punctate, the punctures densely placed, except at the posterior portion of the disk where they are not in mutual contact; front margin feebly thickened but scarcely reflexed; oblique discal impressions nearly wanting. Strial punctures of elytra fine and decreasing only slightly in size toward the apex. Interspaces with a single row of punctures that are as a rule a little more widely spaced than those of the striae and but very little smaller; each puncture bears a short pale hair. Metasternum punctured throughout, more finely at middle; ventral surface with larger and smaller punctures rather closely placed. Second ventral segment much longer than the metasternum at sides, the latter length being scarcely greater than the combined length of the third and fourth ventrals. Length 1.35–1.9 mm.

Florida (Key West, Punta Gorda and Jupiter). Collections of Horn and Hubbard and Schwarz.

I am unable to distinguish the sexes in the material at hand. *Yuccæ* is nearly as robust as *schwarzi* and in the form and sculpture of the thorax, and the punctuation of the lower surface resembles it more closely than do any of the following species. Its habits are indicated by the specific name.

3. **P. seriatum** n. sp.—Moderately elongate, brown, distinctly though sparsely pubescent. Head and prothorax densely punctate throughout, the pronotal disk a little prominent, with well defined oblique impressions each side; front margin thickened and reflexed. Punctures of elytral striae strong and close set, diminishing in size toward the apex, but well defined throughout. Discal striae slightly, two lateral striae more strongly impressed. Interspaces confusedly finely punctulate. Punctuation beneath finer than in the two preceding species, especially on the central portion of the metasternum. Eyes evidently larger in the males, the width of the front being in this sex evidently less than the vertical diameter of the eye, while in the female it is a little greater than the diameter of the eye. This species as a rule is decidedly larger and a little stouter than *bistriatum*, but certain specimens show a variation in the direction of the latter species in the smaller size and less coarsely punctured elytral striae. In all, however, so far as the material at hand allows me to judge, the eyes are relatively larger and the front narrower than in the corresponding sex of *bistriatum*; the color is here always brown, in typical *bistriatum* black. Length 1.9–2.3 mm.

This species occurs from Massachusetts to Florida and Texas. The following specific localities are represented in the material at hand: Wakefield, Tyngsboro, Dracut and Marion, Massachusetts; Staten Island, New York; Pennsylvania; New Jersey; Washington, D. C.; Pennington Gap and Ft. Monroe, Virginia; Cincinnati, Ohio; Georgia; Birmingham, Alabama; St. Lucia, Florida; Covington, Louisiana; Columbus, San Diego, Victoria and Brownsville, Texas.

4. **P. californicum** n. sp.

Very similar in color and sculpture to *seriatum*. The form is, however, sensibly narrower, averaging very nearly two and one half times as long as wide, while in *seriatum* the length is about two and three-tenths times the width. The sculpture of the head is apparently a little shallower and more reticulate in *californicum*, the eyes scarcely different. The elytral striae are scarcely visibly impressed on the disk, the punctures never as large as they sometimes are in *seriatum*. The stem of the metasternal lobe is usually narrower in *californicum*, and though somewhat variable in both species it averages about half the width of the lateral portion in this species, while in *seriatum* it is frequently subequal in width to the lateral portion, and in all specimens examined it is distinctly more than half as wide. Length 1.8–2.25 mm.

California ("Los Angeles Co.," Pomona, San Bernardino Mts., Kaweah). A specimen from Castle Crag, California, in Dr. Fenyès' collection is a little smaller and more feebly striate. It is for the present doubtfully referred here.

5. **P. bistriatum** Say.—Moderately elongate, black, legs and antennæ rufous or rufotestaceous; upper surface feebly shining; pubescence fine and sparse, but evident. Head coarsely densely reticulate-punctate. Front slightly wider than the vertical diameter of the eye in the male; eyes smaller than usual in the female, the front nearly or quite one and one-half times the diameter of the eye. Disk of prothorax slightly elevated at middle, the oblique impressions well defined; front margin thickened and evidently reflexed, punctuation densely crowded throughout. Elytral striae unimpressed, except the two marginal ones, which are quite deeply so and contrast strongly with the others. Strial punctures fine, diminishing in size posteriorly and becoming nearly or quite obsolete, toward the apex. Interspaces usually very finely sparsely confusedly punctulate, but occasionally the interstitial punctures resolve themselves into a nearly regular line. Beneath finely punctulate, except the sides of the metasternum and the propleuræ. Length 1.6–2.1 mm.

Occurs nearly everywhere in our fauna from northern New England to Florida and Texas.

The above description, measurements and habitat apply to the typical form, which as indicated is black or very nearly so. A few individuals have been seen with rufopiceous thorax, while others are entirely brown; these latter are perhaps immature. With the type form I have thought best to place several others which differ from it and from each other in a most puzzling way. I have little doubt that one or more good species are represented, but the number of specimens is as yet hardly sufficient to establish the constancy of the small differences noted, and their tabulation would now be difficult. For the sake of a more definite cabinet arrangement by those who have sufficient material the following subspecies may be recognized:

*Arizonense* var. nov.—A small series collected by Hubbard or Schwarz at Oracle and Bright Angel, Arizona, differs from the type form in being of a uniform brown color; the head more coarsely reticulate-punctate, and the eyes a little larger and less widely separated. The length is uniformly very nearly 2 mm.

*Bicolor* var. nov.—Size small (1.3–1.5 mm.), dull black above, rufous beneath. Here again the eyes are relatively larger in both sexes than in typical *bistriatum*. This form is apparently confined to subtropical Florida (Key West, Cedar Keys, Biscayne and Capron), and all specimens are from the Hubbard and Schwarz collection.

*Debile* var. nov.—Very small (1.1–1.5 mm.). Pale brown, more slender and parallel than in any other form known to me. The cephalic reticulation is very coarse. Specimens here referred are from "Florida;" Pensacola, Florida; "Georgia;" "Texas;" Goliad, Texas

#### 6. *P. brunneum* Horn.

Brown, stouter than *bistriatum* and more pubescent. The punctures of the elytral series are fine and nearly disappear at the middle; the interspaces are almost invisibly confusedly punctulate. There is only a faint trace of the median posterior metasternal sulcus, distinct in all our other species. In this latter respect *brunneum* is like the Mexican *apicalis* of Pic, in fact the two species are exceedingly similar in other respects. I am unwilling to unite them on the basis of the single example of *apicalis* sent me by M. Pic.

Lower California. San José del Cabo (type); Santa Rosa, two examples sent me by Mr. Beyer.



**EUPACTUS** LeConte.

Elongate oval, very convex, either glabrous or with very fine short appressed pubescence. Head with oblique impressed frontal lines extending forward to the sharply impressed clypeal suture. Eyes rather large, moderately convex. Antennæ 11-jointed; first joint large, curved; second scarcely narrower and much smaller, somewhat compressed and a little produced inward; third much narrower, elongate-triangular; fourth to eighth as wide as the third, short, transverse, the third, fifth and seventh sometimes subequal to, sometimes obviously larger than the fourth, sixth and eighth; ninth much wider, compressed, parallel in outer two thirds; and about equal in length to joints 3-8 united; tenth and eleventh closely united, forming an oblong mass rounded at apex, as wide as and a little longer than the ninth. Palpi with the last joint more or less elongate triangular, the apex somewhat obliquely truncate, and sometimes emarginate. Prothorax narrowed in front and deeply excavated beneath for the head, side margins very narrow and not visible from above; disk evenly convex. Elytra irregularly punctate, not infrequently with one or two deep marginal striæ; very rarely with discal striæ. Head not impressed or excavated beneath for the antennæ. Anterior coxæ widely separated, their apices expanded into large transverse horizontal plates which are exposed when the body is contracted, and are sculptured like the rest of the lower surface. Mesosternum nearly vertical, channeled at middle. Metasternum long, not sulcate, notched at middle of hind margin, produced between the middle coxæ into a short non-expanded lobe which is emarginate in front for the ends of the antennæ; sides abruptly declivous and hollowed out for the reception of the middle legs, the excavation limited by an elevated line; episterna narrowly triangularly exposed. Plates of hind coxæ gradually widened externally; first ventral segment deeply excavated throughout its width for the hind legs, segments 2-4 gradually decreasing in length, fifth longer; third and fourth sutures double. Legs slender; tarsi very short, robust, first joint scarcely longer.

The difficulty of placing this singular genus has been already alluded to in the preliminary remarks upon the Dorcatomini. At the time of describing the genus two species only were known to LeConte, though a third, *pudicus* Boh. was assumed to belong here. The genus is now known to occur in our territory from New Eng-

land to Lower California. It has not been found in California proper nor—roughly speaking—anywhere to the north and west of a line drawn from Southern California to Minnesota. It is probable that Boheman in describing the antennæ of his *Auobium pudicum* as having but two elongated terminal joints overlooked the junction between the closely connected tenth and eleventh joints and that LeConte was quite correct in referring this species to *Eupactus*. A careful study of Boheman's description indicates that his species is more nearly allied to *amicus* and *mixtus* than to any others in our fauna, but I cannot convince myself that it applies to either of these. The locality named—"St. Francisco"—is more than doubtful.

The genus is probably well represented in Mexico and Central America, from which region several species have been described in the "Biologia" by Gorham, who created for them quite unnecessarily the genus *Thaptor*. More recently others have been described by Pic from Mexico, Colombia, Peru, Chili and Australia; whether these are all strictly congeneric cannot possibly be determined from the descriptions. Nine species are known to me from within our faunal limits, separable as in the subjoined table:

Elytra with two more or less deeply impressed marginal striæ.

Black, coarsely punctate, pubescence nearly imperceptible.....1. **nactus**.

Brown, finely punctulate, distinctly pubescent.

More robust, discal striæ obsolete.....2. **advensus**.

More elongate, discal striæ traceable but faint.....3. **obsoletus**.

Elytra without marginal striæ.

Pubescence distinct, punctuation dual.

Finer punctures relatively few and inconspicuous; color dark brown, size smaller (3-3.7 mm).....4. **amicus**.

Finer punctures numerous and conspicuous; color black, size larger (4.5 mm.).....5. **mixtus**.

Surface entirely glabrous, punctuation simple.

Vertex carinate, last ventral segment with impressed marginal line.

6. **nitidus**.

Vertex not carinate, last ventral without impressed marginal line.

Metasternal process longer than wide; form moderately convex, punctuation strong and rather close.....7. **canonicus**.

Metasternal process wider than long.

Form more elongate, moderately convex, punctuation conspicuous.

8. **similis**.

Form stouter, very convex, punctuation exceedingly fine and remote.

9. **punctulatus**.

1. **E. nactus** n. sp.—Oval, twice as long as wide; black, head rufopiceous, antennae rufous; surface moderately shining and quite strongly closely punctate, each puncture bearing a minute fine appressed hair, which is scarcely visible under ordinary power. Head densely but not coarsely punctate, vertex not carinate. Prothorax coarsely and densely punctate at sides, less closely at middle. Elytra rather strongly punctate, the punctures similar in size to those on the thoracic disk and distant from one to two times their own diameters; two marginal striae deeply impressed and nearly entire, becoming obsolete near the base. Beneath punctured as closely as above, the metasternum smoother at middle; metasternal intercoxal process about as long as wide, deeply parabolically emarginate. Length 2.6 mm.

Described from a single specimen taken by Mr. Beyer at San Felipe, Lower California.

2. **E. advenus** n. sp.—Elongate-oval, moderately robust, dark brown, opaque, finely feebly pubescent. The sculpture of the upper surface is excessively fine and dense, the individual punctures scarcely detectable; but intermixed sparsely over the disk of the elytra are somewhat larger punctures. Head flat between the eyes which are unusually large, their vertical diameter being subequal to the width of the front. Elytra with two remotely punctate marginal striae, the outer one entire, feebly impressed at base, but quite deeply so toward the apex; second stria similar but becoming obsolete at apical fourth; within this is a faint short third stria. Sculpture and pubescence beneath nearly as above, the front coxal plates and prothoracic episterna more rugose as usual; the metasternum more shining, with the punctuation dual and better defined; the intercoxal lobe rather longer than wide and deeply narrowly emarginate. Length 3.7 mm.

*Hab.*—Florida (Miami).

A single specimen communicated by Mr. Beyer. The very large eyes undoubtedly denote the male.

3. **E. obsoletus** n. sp.—Narrowly oval, nearly two and one-half times as long as wide, brown, subopaque, finely feebly pubescent. Front moderately convex, finely closely punctate, width two and one-half (♀) or two (♂) times the vertical diameter of the eye. Prothorax rather coarsely closely punctate laterally, more finely at middle. Elytra with obsolete rows of closely placed punctures, the interspaces similarly punctate; marginal striae two, with a short inner third stria composed of punctures; the two long striae feebly impressed and defined by punctures toward the base, deeply impressed behind the epipleural lobe. Metasternum coarsely rather sparsely punctate at sides, finely sparsely so at middle, with intermixed minute punctures throughout; intercoxal process not quite as long as wide and moderately deeply triangularly emarginate. Length 2.1–3.5 mm.

*Hab.*—Cincinnati, Ohio (Dury); Missouri (Horn collection); Covington, Louisiana (Soltau); Columbus and San Antonio, Texas (Hubbard and Schwarz).

The rows of punctures on the elytra are usually very feebly defined though quite regular, but are traceable in each of the nine examples before me, and in some are quite readily made out. This species resembles *amoenus* very closely, but the latter is destitute of both discal and marginal striae and the metasternal lobe is differently emarginate.

4. **E. amoenus** n. sp.—A little less elongate and of somewhat darker color than *obsoletus*; elytra without striae, either marginal or discal. Metasternal lobe deeply semicircularly emarginate from side to side; sculpture otherwise substantially as in *obsoletus*. Length 2.8-3.5 mm.

Arizona (Fort Grant and Oracle; Hubbard and Schwarz). The Fort Grant specimens are to be regarded as types. The single example from Oracle differs in one or two particulars but is probably identical.

5. **E. mixtus** n. sp.—Elongate-oval, twice as long as wide; piceous black; evidently, though sparsely and finely punctate. Prothorax densely rather coarsely and uniformly punctate at sides, the punctuation becoming finer and dual toward the middle; elytra without striae, the punctuation dual, the larger punctures mutually distant, from one to two times their own diameters, the interspaces thickly finely punctulate. Lower surface sculptured much like the corresponding portions of the upper. Metasternal lobe broadly not deeply emarginate in circular arc. Length 4.5 mm.

Described from a single specimen sent me by Mr. Beyer, who collected it at Santa Rosa, Lower California

As compared with *amoenus* this species is slightly stouter, darker in color and much larger; the finer punctuation is also distinctly more abundant. If any three adjacent larger punctures are so joined as to enclose a nearly equilateral triangle, the space enclosed will be found to contain from four to six of the finer punctures, while in *amoenus* a corresponding area contains only one or two on the average.

6. **E. nitidus** Lec.—Elongate-oval, strongly convex, not quite twice as long as wide, black, pronotum sometimes dark rufous, surface throughout polished and glabrous. Punctuation simple, sparse and rather fine, as a rule, but becoming closer and evidently coarser toward the sides of the pronotum. Head moderately convex, the eyes distinctly larger in the male, as usual, vertex obsoletely carinate. Prothorax strongly narrowed in front, sides nearly straight. Elytra without striae. Surface beneath polished and finely punctate, the punctures becoming coarser and more numerous toward the sides of the metasternum and at the middle of the first ventral segment, also toward the lateral margins of the following ventral segments, where coarser and finer punctures are intermixed.

Last ventral segment with deep marginal impressed line or groove which is narrowly interrupted at middle. Legs densely finely punctured on their exposed surfaces. Length 2-3 mm.

Specimens of this widely dispersed and not uncommon species have been seen from Massachusetts, New Jersey, Pennsylvania, District of Columbia, Florida (Lake Mary), Ohio, Kentucky, Illinois, Missouri, Kansas (Onaga), Texas (Columbia and San Diego) and Arizona.

The Texas specimens and more especially those from Arizona are obviously more strongly and closely punctured than the typical eastern specimens, and I at first thought they might be separated as a distinct species, but further experience proves that it will be difficult to draw the line between them.

7. **E. canonicus** n. sp.—Form of *nitidus*, but slightly less longitudinally convex. Color dark castaneous, surface polished and glabrous. Head not carinate, punctuation close and moderately coarse. Pronotum densely punctate at sides, the punctures becoming somewhat finer and noticeably sparser toward the middle, where they are separated by about their own diameters. Elytral punctures separated from one to two times their own diameters on the disk, a little closer laterally. Punctuation beneath not so close as in *nitidus*, with scarcely noticeable intermixture of finer punctures, but otherwise very similar to that species. Metasternal lobe fully as long as wide, the anterior margin as defined by the raised marginal line, feebly sinuate truncate. Length 3.2 mm.

*Hab.*—Santa Rosa, Lower California (Beyer).

This species is slightly larger than the largest specimen of *nitidus* before me, but is otherwise very much like in superficial appearance the more strongly punctured western representatives of that species. The non carinate vertex and unmodified fifth ventral segment, however, readily separate the present species from *nitidus*. The resemblance to *similis* is perhaps still greater but the form of the metasternal lobe and the shorter metasternum, referred to under *similis*, should separate them.

8. **E. similis** n. sp.

Very similar to *canonicus* in form, color and sculpture; and differing in no noteworthy respects so far as I can see, except the following: The metasternal lobe is obviously transverse, its anterior margin distinctly though not strongly emarginate in circular arc; the metasternum at side obviously longer than the combined length of the third and fourth ventral segments, while in *canonicus* it is not sensibly longer than these segments. Length 3.25-4 mm.

*Hab.*—Texas (Brownsville). Two examples in the National Museum collection.

There is considerable difference observable throughout the genus in the relative lengths of the metasternum (at sides) and the third and fourth ventral segments. In *nitidus* the metasternum is distinctly longer than the combined length of these two segments, being in fact proportioned nearly as in *similis*. In *punctulatus* the disparity is still greater in the same direction, while in the very elongate *obsoletus* the metasternum is plainly shorter than the third and fourth segments.

9. ***E. punctulatus*** Lee.—Rather broadly oval, very convex, rufopiceous to black, highly polished and glabrous, punctuation exceedingly fine and sparse over the greater portion of the surface both above and beneath. The head and sides of prothorax are as usual more closely punctured, though still unusually finely so; the posterior coxal plates are quite coarsely punctate and gradually very feebly widened externally. The metasternal lobe as defined by its marginal line is not at all emarginate. Length 2.4-3.8 mm.

This species occurs only in the extreme southern portions of our territory. It is known to me from Florida (Pensacola, Biscayne and Enterprise); Louisiana (type); Texas (Columbus and Brownsville); Lower California (Santa Rosa).

I have compared one of the types of *E. viticola* Schwarz with the LeConte type of *punctulatus* in the Ulke collection, and find them identical. Mr. Schwarz records taking his *viticola* in large numbers by beating dead vines of a species of *Vitis* at Enterprise, Florida, in June. This and *nitidus* are thus far the two commonest species in our fauna. Though confused in some collections they are easily separable, aside from the tabular differences, *punctulatus* being plainly stouter, more convex, much more finely punctate, and with the intermediate joints of the antennæ relatively larger and more unequal.

#### **THECA** Mulsant and Rey.

Body oval, moderately elongate, narrowed in front, convex. Head deeply sunk in the prothorax, not excavated beneath for the antennæ, which are received in the prothoracic excavation. Front not acutely margined over the antennal foveæ, but with oblique impressed lines joining a median transverse impression before which is a narrow flat clypeus. Antennæ 11-jointed, first joint auriculate, second slender, oblong; third to sixth small, seventh and eighth acutely prolonged inward, the latter nearly as wide as the ninth;

ninth and tenth large, triangular; eleventh somewhat longer, oval. Last joint of palpi a little elongate, gradually dilated and obliquely truncate. Prothorax subconical, base subequal in width to the elytra, disk evenly convex. Elytra with narrow deeply impressed finely punctate striae. Prosternum not visible, except on dissection, short, declivous; front coxae contiguous, their apices expanded into a transversely elongate horizontal surface against which the mandibles abut in repose. Mesosternum with a posterior compressed and elevated process, its free edge horizontal, on a level with the metasternum and extending from between the middle coxae to the anterior coxae, the apical plates of which are on the same level. Middle coxae rather narrowly separated, the legs received in deep excavations of the mesothorax and metathorax. Metasternum deeply channeled, declivous at sides in front, narrowly truncate at middle. Hind coxal plates very narrow and parallel. Ventral segments not very unequal, sutures nearly straight; first segment excavated for the reception of the hind legs, and finely longitudinally bicarinate at middle. Epipleurae foveate for the hind knees. Legs slender, tarsi short, the first joint a little elongate.

1. **T. profunda** Lec.—Elongate-oval, piceous, antennae pale, legs and abdomen usually rufous; above with fine, moderately long, intermixed prostrate and erect grayish pubescence. Head sparsely not coarsely punctate. Prothorax strongly narrowed from base to apex, sides straight, finely margined, hind angles obtuse; surface densely coarsely punctate, except toward the middle at base. Elytra finely striate, striae finely punctate, the intervals about three times as wide as the striae and scarcely punctate. Beneath coarsely punctate, the metasternum closely, the abdomen more sparsely so. Length 2-2.5 mm.

A widely diffused species, but apparently nowhere common. The following localities are represented in the material studied: Pennsylvania, Maryland, West Virginia, Michigan (Marquette and Eagle Harbor), Oregon, California.

The single specimen from California is the type of *striatopunctata*. A careful comparison of this with the types of *profunda* from Pennsylvania and Lake Superior and with Oregon specimens convinces me that the differences mentioned by LeConte are only individual and not greater than may be observed in Eastern specimens. A single specimen from Texas in my own collection is perhaps distinct by its coarser elytral striae and more closely coarsely punctate abdomen. I am unwilling to give it a name without seeing additional specimens.



**CATORAMA** Guérin.

Body convex, varying from broadly to narrowly oval, clothed above and beneath with short appressed pubescence of varying density. Head rather large, front evenly convex, clypeus depressed, bounded behind by a feebly impressed arcuate suture; a fine oblique raised line over the base of the antennæ; beneath only moderately impressed for the reception of the antennæ. Eyes moderate in size, not very convex, frequently more or less compressed laterally. Terminal joint of both maxillary and labial palpi triangular, the outer edge a little oblique and sometimes sinuate, rarely quite strongly emarginate, inner apical angle somewhat rounded. Antennæ 10-jointed; first joint large, second much smaller, obconical; third to seventh very small, the third longer than wide, the others about as wide as long; fourth and sixth just visibly more prominent internally and with the second, furnished beneath with a pair of longer setæ; eighth large, triangular or quadrate-triangular, as long as the six preceding united; ninth similar to but slightly smaller than the eighth; tenth longer, oval; the last three together longer than all the preceding. Prothorax evenly convex; moderately strongly arcuate anteriorly at middle, sinuate each side, the front angles acute; hind angles broadly rounded. Elytra irregularly punctate, usually with two marginal striæ extending from the middle to the apex, one or both of which, however, may be wanting. Front coxæ depressed, oblique, contiguous. Mesosternum nearly vertical posteriorly, its central portion becoming horizontal and narrowly channeled in front. Middle coxæ rather narrowly separated, the short metasternal process produced into a stout acuminate posteriorly curved hook, which is clasped by the mandibles in repose. Metasternum strongly abruptly declivous at sides, the declivity hollowed out somewhat for the reception of the middle feet. Hind coxal plates gradually very feebly wider externally. Front tibiae compressed and more or less sulcate on the outer face; tarsi short and stout, first joint as long as the two or three following, joints 2-4 short, emarginate, fifth joint a little longer, broadly dilated. First ventral segment excavated for reception of hind feet and nearly concealed by them except at middle; segments 2-4 decreasing a little in length, the fifth longer; sutures nearly straight except the first.

I have not seen Guérin's description of this genus, but that of Lacordaire, while it succeeds in missing nearly all the characters that are of any use for comparative purposes, does state explicitly that the antennæ are 10-jointed, and it is therefore difficult to understand why LeConte, should have applied the name to a species with 11-jointed antennæ. In *C. tabaci*, the type of the genus, the elytra are devoid of the submarginal striæ, which are so frequently present in the species of the genus, and the presence of these striæ in all the species then known to LeConte, except the one (*simplex*), which he refers to *Catorama*, is doubtless largely responsible for the erection of his genus *Hemiptychus*. This probability is further strengthened by the fact that of the species described in later years, all having submarginal striæ were placed in *Hemiptychus*, while those in which the striæ were wanting were referred to *Catorama*, without regard to the number of antennal joints. I have not been able to obtain an example of *C. tabaci*, but a specimen of the doubtless congeneric *palmarum* Chev. has been sent me by M. Pic and confirms the opinion previously entertained that *Hemiptychus* is synonymous with *Catorama*. Species of this genus may always be at once recognized by the peculiar intercoxal hook, an absolutely unique structure, and may further be distinguished from all near allies by the 10-jointed antennæ.

A careful study of much of the material which has for years been accumulating in most of the larger collections in this country shows that the genus is widely dispersed throughout the warmer portions of the temperate and the tropical regions of America, and that the number of species in our own fauna is surprisingly great. The species are almost completely unnameable with existing literature, and few collectors have ventured to do more than write "*Hemiptychus* sp." under their specimens. A complete solution of the problems of relationship even within our own faunal limits is bound to prove immensely difficult; indeed the labor already expended in working over the thousand or more specimens at hand has been very great, months having been given almost exclusively to the study of this one genus. The results are of course not final, but it is hoped that they will prove of real value to the future student. In attempting to subdivide our numerous species into groups, the presence or absence of the submarginal elytral striæ is naturally the first point of departure. Following this, the striation or sulcation of the outer

or exposed face of the front and middle tibiae, and the manner of punctuation of the metasternum have proved of the highest service in breaking up what would otherwise have still remained an unwieldy complex. In the large majority of species the front tibiae are bistriate externally, the grooves being usually marginal, but occasionally more approximate. In a few species one or the other of these grooves may become greatly reduced or entirely lost. In about half of our species the middle tibiae are striate or sulcate externally along their posterior margin. The punctuation of the metasternum is, like that of the upper surface, more or less obviously dual in nature, consisting of smaller and larger punctures intermixed. In the disposition of the larger punctures, and these may be the only ones visible without a strong glass, we have a very useful character; these being sometimes confined to the middle of the metasternum, sometimes denser at middle, but extending sparsely to the side margin, or again they may be nearly uniformly scattered over the whole surface. These characters are probably subject to some individual variation, but I have thus far found them remarkably constant. Additional characters useful in specific separation are not very numerous and consist chiefly in the bodily form which varies from rather strongly elongate (*carinatum*, *longulum*) to broadly oval (*palliatum*, *latum*); the outline in profile, which may be perfectly symmetrical (*validum*, *indistinctum*) or distinctly gibbous or more strongly arched anteriorly (*abbreviatum*, *gibbulum*); the vestiture so dense as to completely conceal the surface (*palliatum*), or so sparse as to be scarcely detectable (*castaneum*, *politum*), with every intermediate degree. The eighth antennal joint exhibits a moderate amount of variation, from the elongate triangular form in *uniforme* and *luteotectum* to distinctly transverse in *gracile* and *castaneum*. The relative size and abundance of the intermixed coarser punctures of the upper surface is of considerable specific importance, but is subject to individual variation. External sexual marks are virtually lacking. In a few species there is an evident difference in the size of the eyes, and in one (*castaneum*) the eighth joint of the antennae is of different form in the two sexes. In a small number of species (*metasternale*, *carinatum* and *punctatum*), all of elongate form, the metasternum is acutely longitudinally carinate at middle. In *punctulatum* the terminal joints of both labial and maxillary palpi are deeply emarginate at apex, after the man-

ner of *Petalium*. The same structure is obvious though much less marked in *debile*.

Very little is known as yet concerning the life habits of the species of this genus. Certain species are known to inhabit galls, while others have been found in the seeds or stems of various plants. The following biological notes have for the most part been furnished by the Department of Agriculture and include all that I have been able to learn in this connection.

*C. impressifrons*.—One example from Department of Agriculture is labeled "Willis, Texas, July 28, in seed of tobacco."

*C. grande*.—"Shovel Mountain, Texas. In stems of Yucca."

*C. conophilum*.—"Las Vegas, New Mexico, December 5, in cone of *Pinus edulis*" (Barber and Schwarz).

*C. tumidum*.—One example, probably of this species though not quite typical, was obtained from twigs of fig at Round Mountain, Texas (Schaupp).

*C. uniforme*.—"Mesilla Park, New Mexico, March 14, in pith of dead sunflower stem" (Cockerell).

*C. confusum*.—Specimens in National Museum were bred "from Cecidomyid galls on *Celtis* at Corpus Christi, Texas. Another example is labeled "Baton Rouge, Louisiana; bred from gall on Hickory." Others were "bred from *Dryophanta* (?) galls on *Quercus* sp. Rockport, Texas (Schwarz)."

*C. indistinctum*.—Two examples without locality, "bred from Cecidomyid galls on *Pinus balsamæ*."

*C. sp. dub.*—One example of a species near *pingue*, but perhaps distinct, bred from Cecidomyid gall on Juniper, Los Angeles, California (Coquillet).

The tabulation of the species of this genus is a most difficult matter, and I foresee that the scheme which follows will, beyond a certain point, frequently be found inadequate or ambiguous by the student, especially if he attempt without experience or a fair series of correctly named species, to identify uniques. The task is indeed quite hopeless, unless the specimens are clean and mounted in such fashion as to clearly reveal the few essential characters upon which their classification depends. The descriptions of the species following the table will be found very short. It is believed that added details would only obscure the essential differences, and thus impair rather than increase their usefulness.

- Elytra without distinctly impressed lateral striae.....2.  
 Elytra with two lateral striae extending from near the middle to the apex, the inner one rarely (*manicum* and *gracile*) feeble or subobsolete.....3.  
 2. Both front and middle tibiae without grooves on the outer face.  
     Terminal palpal joints emarginate at apex .....1. **punctulatum**.  
     Terminal palpal joints not emarginate at apex .....2. **vitiosum**.  
 Front tibiae bisulcate, middle tibiae not sulcate.  
     Metasternum punctate at middle only, front with two coarsely punctate shallow impressions.....3. **impressifrons**.  
     Metasternum punctate throughout.  
     Head coarsely punctate, the punctures nearly or quite as large as those at the sides of the pronotum, punctures of elytra tending to arrange themselves in longitudinal bands, especially laterally...4. **sectans**.  
     Head with intermixed coarser punctures, which are, however, distinctly finer than those at the sides of the pronotum, punctures of elytra more uniformly distributed .....5. **mutans**.  
 Front tibiae bisulcate, middle tibiae sulcate more or less plainly along the posterior margin.  
     Metasternum nearly or quite impunctate at sides, head virtually devoid of coarser punctures.  
     Coarser punctures very inconspicuous on the elytra and nearly lacking on the pronotum .....6. **estriatum**.  
     Coarser punctures moderately numerous at sides of pronotum and on the elytra.  
     Larger (3.8-4.8 mm.), pubescence shorter, coarser punctures less marked. 7. **grande**.  
     Smaller (3-3.5 mm.), pubescence longer, coarser punctuation more conspicuous, the punctures of the metasternum more nearly approaching the sides .....8. **lentum**.  
 Metasternum punctate, nearly evenly from side to side  
     Coarser punctures numerous and conspicuous on head, thorax and elytra. 9. **conophilum**.  
     Coarser punctures lacking on head and thorax, very sparse and fine on the elytra, not distinguishable unless denuded of pubescence, body more broadly oval.....10. **latum**.  
 3. Anterior tibiae bisulcate externally.....7.  
     Anterior tibiae with only a single well defined groove on the outer face....4.  
     Anterior tibiae not distinctly grooved, the posterior sulcus only faintly indicated; middle tibiae not grooved; metasternum with few sparse punctures externally, profile not gibbous.....11. **simplex**.  
 4. Middle tibiae grooved along the posterior margin.....6.  
     Middle tibiae without marginal groove .....5.  
 5. Metasternum strongly longitudinally carinate at middle. 12. **metasternale**.  
     Metasternum not carinate.  
     Anterior sulcus of front tibiae entirely lacking; posterior sulcus strong, rather widely distant from the margin, nearly as long as the tibia; intermixed coarser punctures of pronotum and elytra strong and numerous. ....13. **inaequale**.

Anterior sulcus either lacking or fine and faintly impressed along the extreme margin of the distal dilation; posterior sulcus marginal, abbreviated apically; form rather strongly gibbous in profile; coarser punctures relatively sparse and fine on the elytra and still less evident on the pronotum .....14. **abbreviatum**.

Posterior sulcus lacking, anterior groove fine and close to the margin.

#### 15. **gibbulum**.

6. Metasternum carinate .....16. **carinatum**.

Metasternum not carinate .....17. **ventrale**.

7. Middle tibiae with an evident marginal groove... ..8.

Middle tibiae without marginal groove .....23.

8. Metasternum carinate, form strongly elongate.....18. **punctatum**.

Metasternum not carinate.....9.

9. Punctuation of elytra obviously dual, the surface finely punctulate with coarser punctures intermixed .....10.

Punctuation of upper surface fine and close throughout, the coarser punctures scarcely evident at any part except toward the elytral apex in *densum*.

Size larger, form more robust and less obtusely rounded at the extremities, surface dull, coarser punctures distinct on the apical third or fourth of the elytra, color uniformly dark brown... ..19. **densum**.

Size generally smaller, form more elongate, more obtusely rounded at extremities, surface shining, coarser punctuation practically absent throughout; elytra piceous, head, prothorax and under surface rufous.

#### 20. **dichroum**.

Punctuation distinctly coarser than in *densum* and *dichroum*, the punctures of the disk nearly uniform in size, but obviously larger at the sides of the pronotum and near the elytral apex; color and form as in *dichroum*, surface distinctly less shining.....21. **nigripenne**.

Punctuation of pronotum fine and moderately close, a little coarser at sides; that of elytra sparse and coarse, not intermixed with finer punctures; black, head and prothorax slightly rufescent; size very small (1.5 mm.) .....22. **dispar**.

10. Color black or nearly so, punctuation relatively sparse, surface shining.

#### 23. **nigritulum**.

Color rufous to piceous, usually some shade of brown, punctuation closer, surface less shining ..... 11.

11. Pubescence longer and denser, obscuring or quite concealing the surface sculpture .....12.

Pubescence finer and sparser, rarely (*robustum*) materially obscuring the surface sculpture.....13.

12. Size larger (3 mm.), form more oblong, nearly twice as long as wide, scarcely gibbous in profile ... ..24. **vestitum**.

Size smaller (2 mm.), more rotundate, but little more than one-half longer than wide, distinctly gibbous in profile . ....25. **palliatum**.

13. Coarser punctures of metasternum more evenly distributed, always present at sides.....14.

Coarser punctures of metasternum nearly confined to the central portion, scarcely evident at sides.

- Size larger (3 mm. or more), eighth joint of antennæ evidently longer than wide, terminal joints of both labial and maxillary palpi not distinctly sinuate at tip.....26. **placidum**.
- Size smaller (less than 2 mm.), eighth joint of antennæ nearly or quite as wide as long, terminal joints of palpi conspicuously sinuate at tip.  
27. **debile**.
14. Elytra evidently a little narrowed from the humeri.....15.  
Elytra parallel ... ..17.
15. Size small (1.75 mm.), coarser punctures fine and inconspicuous; elytra rufescent in apical two-fifths.....28. **posticum**.  
Size larger (usually from 2.5-3.5 mm.), elytra not evidently paler apically..16.
16. Form more gibbous in profile, coarser punctures of pronotum numerous and conspicuous; groove of middle tibia rather remote from the margin. (Texas).....29. **tumidum**.  
Form less gibbous in profile, coarser punctures of pronotum inconspicuous, groove of middle tibia strictly marginal (California)....30. **nubilum**.
17. Metasternum at side nearly equal in length to the first two (visible) ventral segments.....31. **longulum**.  
Metasternum at side distinctly shorter than the first two ventrals, usually about one half longer than the first segment.....18.
18. First joint of antennal club unusually narrow slightly more than twice as long as wide; coarser punctures very fine and inconspicuous throughout; size larger (4 mm.) .....32. **uniforme**.  
First joint of antennal club distinctly less than twice as long as wide...19.
19. Head vaguely longitudinally carinate.....33. **fastigiatum**.  
Head without trace of median carina .....20.
20. Form more elongate, pubescence finer and shorter ... ..21.  
Form more oval, pubescence more conspicuous... ..22.
21. Profile slightly gibbous.  
Size larger (2.4-2.7 mm.), form less robust; grooves of front tibiæ parallel and mutually scarcely more distant than from the margins. (Lower California) .....34. **otiosum**.  
Size smaller (1.6-2.1 mm.), form more robust; grooves of front tibiæ more widely separated. (Brownsville, Texas).....35. **congruum**.  
Profile not in the least gibbous, the arch flat and symmetrical; grooves of front tibiæ more widely separated.....36. **vexatum**.
22. Size large, about 4 mm. (southwestern Texas).....37. **robustum**.  
Size moderate, 2-3.5 mm., coarser punctures of metasternum rather fine and sparse (Massachusetts to Louisiana).....38. **grave**.  
Size smaller, coarser punctures of metasternum strong and numerous. (Florida and Texas).....39. **porosum**.  
Size smaller, body more convex, coarser punctures of metasternum very fine and sparse. (Lower California).....40. **convexum**.
23. Pubescence exceedingly short, sparse and indistinct... ..24.  
Pubescence normally developed .....25.
24. Metasternum subequal in length to the second and third ventral segments united; punctuation dual, though rather feebly so in typical specimens, but varying in both directions; color castaneous (typical) to blackish .....41. **castaneum**.



- Metasternum distinctly shorter than the second and third ventrals united ;  
punctuation simple, color castaneous .....42. **politum.**
25. Form evidently gibbous in profile, or elytra narrowing posteriorly from the  
humeri or both .....26.  
Form not distinctly gibbous in profile, elytra parallel... .....31.
26. Intermixed coarser punctures at sides of pronotum either nearly lacking or  
relatively small and inconspicuous ; coarser punctures of metasternum  
nearly evenly distributed, not much more numerous at middle than  
at sides.....27.  
Coarser punctures of pronotum strong and conspicuous.....28.
27. Size much smaller (1.4-2 mm.). Texas.....43. **triviale.**  
Size larger (2.3-3 mm.).  
More elongate, coarser punctures of elytra distinct. (California).  
44. **conjunctum.**  
Less elongate, coarser punctures scarcely detectable at any part. (Lake  
Superior).....45. **boreale.**
28. Form short and stout, pubescence relatively dense .....46 **pusillum.**  
Form more elongate, pubescence sparser.....29.
29. Hind coxal plates and sides of metasternum nearly or quite impunctate..30.  
Hind coxal plates punctate, metasternal punctures nearly as numerous at  
sides as at middle.  
Less elongate, fine punctulation of metasternum nearly absent. (Arizona,  
New Mexico).....47. **consobrinum.**  
More elongate, fine punctulation of metasternum quite distinct. (Florida).  
48. **simile.**
30. Coarser punctures of pronotum and elytra only moderate in size and num-  
ber, form robust, elytra evidently narrowed from the humeri. (Ari-  
zona) .....49. **pingue.**  
Coarser punctures moderately strong, form rather strongly gibbous in profile,  
but less robust and nearly parallel. (Arizona, Texas).  
50. **vacuum.**  
Coarser punctures unusually strong and numerous, elytra not at all narrowed  
from the humeri. (Florida) .....51. **cicatricosum.**
31. Densely pubescent, surface sculpture nearly invisible..52. **luteotectum.**  
Moderately pubescent, surface sculpture evident.....32.
32. Coarser punctures of elytra arranged in geminate series.  
53. **geminatum.**  
Coarser punctures of elytra irregularly placed, at least without distinct indi-  
cation of double lines.....33.
33. Lateral striæ of elytra well developed .....35.  
Inner lateral stria feeble or indistinct.....34.
34. Size smaller (under 2 mm.) and more elongate, coarser punctures virtually  
lacking, even on the metasternum, first joint of antennal club strongly  
transverse and triangular. (Ohio) .....54. **gracile.**  
Larger and stouter, coarser punctures evident, first joint of antennal club a  
little longer than wide. (California).....55. **maucum.**
35. Size large (3.4-4 mm.), coarser punctures of metasternum few and very fine,  
color pale brown .....56. **validum.**  
Size medium (2-2.7 mm.), coarser punctures of metasternum moderate in  
size and number, color blackish brown.

Metasternum nearly or quite impunctate at sides ..... 57. **confusum**.  
Metasternum punctured nearly evenly from side to side.

58. **angustum**.

Size smaller on the average, though examples of *auctum* sometimes slightly exceed 2 mm ..... 36.

36. Outline strongly convex in profile, coarser punctures relatively much less conspicuous, those of the pronotum confined to the marginal region. (California)..... 40.

Outline more flattened in profile, coarser punctures much stronger and more numerous, those of the pronotum extending well onto the disk (except in *parvum*) ..... 37.

37. Form more elongate, coarser punctuation fine and indistinct, color red brown, size small (1.75 mm.)..... 59. **parvum**.

Form stouter, coarser punctuation moderately strong ... .. 38.

38. Size very small (1.5 mm.), coarser punctures large and numerous.

60. **turbidum**.

Size usually much larger, coarser punctuation moderate..... 39.

39. Metasternum more closely punctate at middle, evidently but very sparsely at sides..... 61. **auctum**.

Metasternum punctate at middle, the punctures completely disappearing at sides ..... 62. **indistinctum**.

40. Brown, head sometimes a little paler, elytra parallel, lateral striae quite deeply and sharply impressed..... 63. **exiguum**.

Piceous black, head and thorax reddish, elytra feebly widening to the middle, lateral striae less pronounced ..... 64. **obsoletum**.

1. **C. punctulatum** Lec.—Blackish brown, three-fifths as wide as long, very convex, a little more pointed behind, distinctly gibbous in profile. Pubescence sparse and fine; coarser punctures lacking or indistinct on the head and pronotum, sparse but distinct throughout the elytra; no lateral striae. Metasternum subequal in length to the second ventral segment, coarsely punctured throughout. Tibiae not grooved. Eighth antennal joint slightly longer than wide, quadrate triangular. Terminal joint of both maxillary and labial palpi deeply emarginate or notched at apex. Length 1.8–2.4 mm.

*Hab.*—Probably confined to the coast line of tropical Florida. Specimens before me collected by Hubbard and Schwarz, and Wickham bear labels Biscayne, Lake Worth, Jupiter, Capron, St. Lucia, Key West and Dry Tortugas. The LeConte type is from Tampa.

The very convex form, short metasternum (apterous ?), deeply emarginate terminal joints of palpi and non sulcate tibiae constitute a combination of characters which make this an easily recognized species. Dr. Horn (Coleoptera of Baja California) has united this species with *sectans*. The error is evidently due to a wrong determination of a series of Texas specimens of *sectans* in the Horn collection, these bearing the label *punctulatum* in LeConte's handwriting.

ing. The Horn collection contains examples of the true *punctulatum* but evidently unrecognized, as they bear no name label.

2. **C. vitiosum** n. sp.—Brown, moderately elongate-oval, strongly convex; pubescence fine, not dense; form somewhat gibbous in profile and just visibly narrowed posteriorly from the humeri. Coarser punctures fine and inconspicuous on the head, numerous but not large at the sides of the pronotum, moderate in size and number on the elytra, the latter without lateral striæ. Metasternum punctured from side to side. Eighth joint of antennæ about two-fifths longer than wide. Terminal joint of palpi elongate-parallel, the apex pointed but not emarginate. Length 1.7–2 mm.

Texas, San Diego and Brownsville.

One example from the former locality sent by Mr. Chittenden and one from the latter by Mr. Schaeffer.

The entire absence of tibial grooves distinguishes this species from all others known to me, except *punctulatum*, from which it differs in the rather less robust form which is distinctly less gibbous in profile, and its more slender terminal palpal joints, which are moreover not at all notched or emarginate at apex.

3. **C. impressifrons** n. sp.—Dark brown, robust, three-fifths as wide as long, a little narrowed posteriorly, evidently gibbous in profile. Pubescence short, not dense. Head with two coarsely punctured shallow foveæ near the eyes. Prothorax moderately coarsely punctate laterally; the coarser punctures of the elytra beginning at basal fourth or fifth, increasing somewhat in size and number toward the apex, and showing a tendency to stria arrangement at sides. Metasternum punctured at middle. Front tibiæ bisulcate; middle tibiæ not sulcate. Length 4.1–4.25 mm.

*Hab.*—Brownsville, Texas. Two examples collected by Mr. O. Dietz and sent me by Mr. Schaeffer.

The antennæ and palpi are not visible in either of the two examples. One of largest species and readily distinguished from all others by the peculiarly sculptured front. Since writing the above I have seen a third specimen in the National Museum collection labeled "Willis, Texas. In seed of tobacco; issued July 28"

4. **C. sectans** Lec.—Blackish fuscous, scarcely more than half as wide as long, evenly oblong, elliptical, not or scarcely gibbous in profile, very finely pubescent. Coarser punctuation strong and conspicuous throughout, the punctures as large and dense on the head as at the sides of the pronotum. There is a distinct tendency toward a serial arrangement on the elytra, the series more or less evidently approximated by pairs, especially toward the sides; lateral striæ lacking. Metasternum one-half longer than the second ventral segment, punctured nearly uniformly from side to side. Hind coxal plates strongly punctate. Eighth antennal joint triangular, about one-half longer than wide. Front tibiæ bisulcate, middle tibiæ not sulcate. Length 3–4 mm.

*Hab.*—Texas, various localities. One specimen is labeled New York, possibly in error.

5. **C. mutans** \* n. sp.—Dark brown, a little more than half as wide as long, evenly oblong, elliptical, scarcely gibbous in profile, pubescence moderate. Inter-mixed coarser punctures of the head moderately numerous, rather fine and evenly distributed, those of the pronotal sides distinctly coarser and denser; those of the elytra for the most part less coarse than at the sides of the pronotum, visible over the entire surface, but sparser and a little finer toward the base, with scarcely any tendency toward a serial arrangement at any part. Metasternum sparsely evenly punctate, the punctures about equal in size to those of the head. Hind coxal plates punctate. Eighth antennal joint triangular, one-half longer than wide. Front tibiae bisulcate, middle tibiae not sulcate. Length 2.4–3.7 mm.

*Hab.*—The typical form above described was taken at Oracle, Ft. Grant, and Santa Rita Mountains, Arizona, by Mr. Schwarz. A series from the Cape Region of Lower California (collections of Fuchs and Beyer) is not appreciably different. Specimens from Texas (San Diego, Brownsville, Hockley, Shovel Mt., "S. W. Texas") are more coarsely closely punctured, the punctures of the head but little finer than those of the pronotal sides. They thus approach *sectans*, but the color, longer and more conspicuous pubescence, and lack of distinct serial arrangement of punctures of the elytra are all as in the present species.

6. **C. estriatum** Horn.—Dark brown, robust, fully three-fifths as wide as long, broadly evenly oblong-elliptical, not at all gibbous in profile; pubescence very fine and short. Coarser punctures almost entirely lacking on head and pronotum, very fine but traceable on the elytra, where they tend to arrange themselves laterally in longitudinal bands as in *grande*. Lateral striae lacking. Metasternum sparsely finely punctate at middle, smooth at sides. Antennae and tibiae as in *grande*. Length 4.5 mm.

*Hab.*—Lower California (San Fernando).

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\* *Dorcatoma micans* Boisd.—A Mexican example bearing this label, from Mr. Gorham, is near *mutans*, but differs in the coarser punctures of the head being nearly absent, and by the metasternum being nearly impunctate at sides.

*C. palmarum* Chev.—A specimen of this species from San Domingo sent me by M. Pic has the front tibiae bisulcate, middle tibiae without grooves, metasternum punctured at sides, elytra without lateral striae. It is thus to be placed near *sectans* and *mutans*. It is, however, much larger and more robust than either, with the coarser punctures of the head and pronotum very inconspicuous, while those of the elytra are distinctly arranged in irregular double lines.

7. **C. grande** n. sp.—Brown, almost twice as long as wide, oblong-elliptical, not gibbous in profile, finely pubescent. Intermixed coarser punctures virtually wanting on the head, moderately numerous though rather fine at the sides of the pronotum, distinctly larger and moderately numerous on the elytra where they tend to become condensed in longitudinal bands, especially laterally. In certain lights the sides of the elytra are seen to be vaguely subsulcate, the line of punctures occupying these feeble impressions. Lateral striae lacking. Metasternum finely punctured at middle, scarcely at all so at sides. Eighth antennal joint nearly one-half longer than wide, triangular, with outer apical angle rounded, the apical edge oblique. Front tibiae bisulcate, middle tibiae sulcate. Length 3.8–4.8 mm.

*Hab.*—Marfa, Texas; Shovel Mountain, Texas, “from stems of Yucca,” National Museum collection; Oracle, Bright Angel, Santa Rita Mountains and Williams, Arizona.

This species attains a greater size than any other of our fauna. It is rather closely related to *estriatum*, but may be distinguished by the greater development of the coarser punctures and its more elongate form.

8. **C. lentum** n. sp.—Closely related to *grande*, but seems distinct by its smaller size, a trifle less obtusely rounded at extremities; slightly better defined traces of lateral striae; coarser punctures of elytra, less evidently arranged in geminate series, those of the metasternum approaching more closely the sides; the hind coxal plates more evidently punctate, the pubescence distinctly longer. Length 3–3.5 mm.

*Hab.*—Prescott, Arizona. Collections, Bowditch and Blanchard.

9. **C. conophilum** n. sp.—Dark brown, rather less than three-fifths as wide as long. Evenly broadly oblong-elliptical, not gibbous in profile. Coarser punctuation of upper surface strong and conspicuous throughout. Metasternum rather finely punctate, the punctures extending to the sides. Hind coxal plates distinctly punctate. Front tibiae bisulcate, middle tibiae sulcate. Length 3.6 mm.

*Hab.*—Las Vegas, New Mexico.

The example before me was collected December 5, 1901, in cone of *Pinus edulis* by Barber and Schwarz.

10. **C. latum** Horn.—Dark brown, broadly oval, strongly convex, scarcely gibbous in profile, finely but rather conspicuously pubescent. Coarser punctures almost entirely absent from head and thorax, very fine and sparse on the elytra where they are almost completely concealed by the pubescence. Lateral striae lacking. Metasternum exceedingly sparsely finely punctured at the sides, the punctures but little closer toward the middle. Eighth antennal joint longer than wide, apical edge distinctly oblique. Front tibiae bisulcate, middle sulcate. Length 2.5–3.8 mm.

*Hab.*—Rather plentiful on the sea beaches of southern Califor-

nia. This species is apterous, the metasternum shorter than usual, but less so than in *punctulatum*, being about one third longer than the second ventral segment.

11. **C. simplex** n. sp.—Dark brown, form rather robust, less than twice as long as wide and quite strongly convex, scarcely visibly narrowed posteriorly, not gibbous in profile. Pubescence fine, feebly condensed in longitudinal vittae on the elytra in well preserved specimens. Coarser punctures scarcely evident on the head, moderately developed at the sides of the pronotum, and rather strongly so on the elytra, especially toward the apex, where they are much coarser than on the pronotum. Metasternum sparsely, finely, nearly evenly punctate throughout. Hind coxal plates punctate. Front tibiae rather strongly dilated apically, posterior groove faintly indicated, anterior groove lacking. Middle tibiae not grooved. Length 2.5-3.2 mm.

*Hab.*—Florida (Punta Gorda, Key West, Biscayne—Hubbard and Schwarz collection).

The eighth antennal joint (first joint of club) is just visibly longer than wide, subquadrate, obliquely narrowed internally at base, the inner apical angle right. Lateral striæ of elytra sharply impressed, ending abruptly opposite the base of the first visible ventral segment, and not continued to base by shallow grooves or rows of larger punctures.

12. **C. metasternale** n. sp.—Dark brown, not robust, almost exactly twice as long as wide, scarcely visibly narrowed posteriorly, distinctly gibbous in profile. Pubescence fine and sparse. Punctuation of head obviously dual, the coarser punctures, however, are fine, numerous and evenly distributed. Pronotum coarsely closely punctured at sides; coarser punctures of elytra rather fine and sparse throughout, distinctly finer than those at the sides of the pronotum, except near the side margin anteriorly. Metasternum strongly longitudinally carinated at middle, sparsely finely punctate, the punctures very fine and widely spaced laterally, but evidently extending to the sides. Hind coxal plates punctate. Front tibiae with a single groove rather widely distant from the posterior margin; middle tibiae not grooved. Length 2.7 mm.

*Hab.*—Santa Rosa, Lower California.

Aside from the difference in tibial grooves, *metasternale* may be separated from the other species with carinate metasternum—*punctulatum* and *carinatum*—by its plainly gibbous profile. It inhabits a completely distinct faunal region.

13. **C. inaequale** n. sp.—Dark piceous brown, a little less than twice as long as wide, slightly narrowed posteriorly, rather strongly gibbous in profile. Pubescence fine and short. Intermixed coarser punctures conspicuous throughout, being numerous and quite evenly disposed on the head, coarse and close at the sides of the pronotum, and extending well into the disk, becoming smaller

inwardly as usual; strong and numerous on the elytra, a little finer in the sutural region, especially toward the base. Metasternum very sparsely but nearly evenly punctured from side to side. Eighth antennal joint broadly triangular, a little longer than wide, the inner apical angle slightly obtuse and somewhat rounded. Front tibiae with a single nearly median groove, middle tibiae not grooved. Length 2.2-3.2 mm.

*Hab.*—Texas (Laredo, May 27th, Hubbard and Schwarz); Brownsville (Wickham, Dury and Barber).

A single example from Arizona in the National Museum collection is referred here doubtfully. It is 2.5 mm. in length, red-brown, with the coarser punctures less strong than in typical specimens. The more essential characters are, however, practically identical and it is assumed for the present to represent only a geographical race.

14. **C. abbreviatum** Lec.—Dark piceous brown, varying to reddish, rather stout, a little more than three-fifths as wide as long, distinctly narrowed from the humeri and strongly gibbous in profile. Pubescence fine and sparse. Finely punctulate, the intermixed coarser punctures practically absent on the head, few and small near side margins of the pronotum, sparse and inconspicuous on the elytra in the type, but larger and more numerous toward the elytral apex in some specimens doubtless correctly associated. Metasternum with moderate punctures very sparsely scattered laterally but more numerous at middle. Eighth antennal joint a trifle longer than wide, subquadrate, the basal edge oblique. Front tibiae with posterior groove well marked but abbreviated at about the apical third. There are feeble traces of the anterior groove toward the apex in the type, but these may either entirely disappear or become fairly well developed. Middle tibiae not grooved. Length 2-2.4 mm.

*Hab.*—Florida (Capron, type, Miami, Lake Worth, Key Largo). Collections of Hubbard and Schwarz, and Beyer.

The present species represents the extreme development of gibbosity in profile. It is also peculiar in the variability of the anterior tibial groove, usually so constant in character. The lateral striae are shorter than usual, extending forward to a point opposite the first visible ventral suture.

*C. seminulum* Gorb. from Guatemala is closely allied, but has the groove of front tibiae remote from hind margin, and the lateral striae of the elytra longer.

15. **C. gibbulum** n. sp.—Dark brown, about three-fifths as wide as long, distinctly narrowed and somewhat pointed behind, strongly gibbous in profile. Pubescence yellowish gray, plentiful, obscuring to some extent the surface sculpture. Surface rather less shining than usual, coarser punctures visible though sparse toward the elytral apex, indistinct anteriorly and practically absent on the head and pronotum, except at the extreme lateral margins of the latter.



Metasternum sparsely nearly uniformly punctured from side to side. Eighth antennal joint triangular and nearly one-half longer than wide. Front tibiae unisulcate, the posterior groove lacking or extremely indistinctly indicated, the anterior groove fine and close to the margin. Middle tibiae not grooved. Length 1.8-2.5 mm.

*Hab.*—Arizona, Tucson and Hot Springs, June; Catalina Springs, July (Hubbard and Schwarz collection); "Arizona" (Morrison); Pinal Mountains (Wickham); Nevada (Reno, Wickham); California (Palm Springs). One specimen collected at Winslow, Arizona, by Wickham is also referred here, though not true to type.

16. **C. carinatum** n. sp.—Brown, form elongate, parallel, a little less than half as wide as long, not in the least gibbous in profile, pubescence very fine and thin. Coarser punctures evident on the head, distinct at the sides of pronotum, rather numerous but not very conspicuous on the elytra. Metasternum strongly carinate, punctures sparse throughout, but finer and more remote laterally. Eighth antennal joint quadrate-triangular, very little longer than wide. Front tibiae rather strongly dilated apically, the anterior sulcus lacking; middle tibiae feebly grooved close to the hind margin. Length 2 mm.

*Hab.*—Crescent City, Florida. Hubbard and Schwarz collection.

Described from a single specimen, probably a male, as the eyes are unusually large, being separated by only about two and one-half times their horizontal diameter as seen from the front. Quite similar in appearance to *ventrale*, but the latter is a little less elongate, with slightly longer pubescence and non-carinate metasternum.

17. **C. ventrale** Lec.—Color varying from red brown to piceous brown, ventral surface paler. Form parallel, twice as long as wide, not at all gibbous in profile, pubescence fine, rather sparse. Coarser punctures inconspicuous or nearly absent on the head and thorax, very fine and sparse on the elytra. Metasternum sparsely punctate from side to side, the punctures a little larger and less remote at middle. Eighth antennal joint quadrate-triangular. Front tibiae with posterior groove. Middle tibiae finely grooved close to the posterior margin. Length 2-2.4 mm.

*Hab.*—Columbus, Texas, May; New Iberia, Louisiana, June. (Collection Hubbard and Schwarz). LeConte's type was from Illinois.

18. **C. punctatum** Lec.—Brown, cylindrical, twice as long as wide, not at all gibbous in profile. Pubescence moderate; coarser punctuation always distinct, but variable. Metasternum strongly carinate, punctate throughout. Eighth antennal joint quadrate-triangular, scarcely longer than wide. Front tibiae deeply bisulcate, middle tibiae plainly sulcate. Length 2.1-2.8 mm.

LeConte's type is from Louisiana; he also mentions a second specimen from Georgia. The material at hand includes specimens

from Columbus, Texas, Hubbard and Schwarz collection; Covington, Louisiana, H. Soltau collection; Enterprise and Miami, Florida, collection of Hubbard and Schwarz, and Beyer; Cincinnati, Ohio, Dury.

In the type the coarser punctures are conspicuous though not very large. In the Florida examples these punctures become very coarse and numerous, while in some of the Cincinnati ones they may almost be called indistinct. There is present, however, every degree between the extremes and I cannot discover any structural peculiarities which will serve for specific separation. Passing over this extraordinary variability of punctuation, the cylindrical form, carinate metasternum and tibial grooves form a combination of characters not duplicated elsewhere, and render the identification of this species at once easy and certain.

19. **C. densum** n. sp.—Dark brown, head and thorax dull rufous; moderately robust, slightly more than one-half as wide as long, oblong-oval, rather narrowly rounded at extremities, scarcely visibly gibbous in profile; pubescence very short and fine, but moderately plentiful. Punctulation fine and dense, surface minutely alutaceous and dull; coarser punctures invisible, except in the apical third or fourth of the elytra. Metasternum alutaceous, punctured sparsely throughout. Eighth antennal joint broadly triangular, scarcely as wide as long. Front tibiae bisulcate, middle tibiae finely but distinctly sulcate close to the posterior margin. Length 2.5 mm.

*Hab.*—Described from a single specimen taken at Washington, D. C. (Hubbard & Schwarz collection). Possibly a variety of *boreale*, but the latter certainly has non-sulcate middle tibiae and LeConte says that there are no scattered punctures on the elytra.

20. **C. dichroum** n. sp.—Piceous brown, head, thorax and ventral surface rufous; form oblong-elliptical, twice as long as wide, not at all gibbous in profile; upper surface finely, evenly, rather closely punctulate throughout, coarser punctures virtually absent. Metasternum with dual punctuation, the coarser punctures reaching the sides. Eighth antennal joint broadly subquadrate-triangular, nearly as wide as long. Front tibiae bisulcate, middle tibiae finely sulcate close to the posterior margin. Length 1.8-2.5 mm.

*Hab.*—Michigan (Detroit); Virginia (Pennington Gap); West Virginia (Berkeley); Louisiana (New Iberia, Soltau).

21. **C. nigripenne** n. sp.—Head, thorax and lower surface rufous, elytra black; form elongate-oval, slightly more than half as wide as long, not gibbous in profile. Pubescence fine and sparse. Surface very finely alutaceous, the lustre somewhat dull; coarser punctures fine and not very obvious on the head, pronotum very finely punctulate on the disk, a little more coarsely so at the

lateral margins; punctuation of the elytra about as strong as at the sides of the pronotum, and not very variable in size. Metasternum finely sparsely punctate throughout, the punctures a little stronger at the middle, surface alutaceous. Eighth antennal joint broadly triangular, nearly as wide as long. Front tibiae bisulcate; middle tibiae finely grooved along the hind margin. Length 1.75 mm.

*Hab.*—New Mexico (Deming), Hubbard and Schwarz collection.

22. **C. dispar** n. sp.—Black, head and lower surface rufescent. Form moderately robust, less than twice as long as wide, not narrowed posteriorly nor gibbous in profile. Pubescence very fine and thin, but evident on the head and pronotum, excessively sparse and short on the elytra. Head finely punctulate, without intermixed coarser punctures, pronotum finely punctulate on the disk, the punctures becoming distinctly coarser at the side margins; elytra coarsely sparsely punctate, the finer punctuation entirely lacking, the surface minutely reticulate but not dull. Metasternum sparsely, finely punctate from side to side. Eighth antennal joint quadrate-triangular. Front tibiae bisulcate, middle tibiae finely but rather deeply sulcate. Length 1.5 mm.

*Hab.*—Columbus, Texas. Hubbard and Schwarz collection. This is the smallest species in our fauna. It is somewhat similar to some examples of *nigritulum*, but in none of these is the fine punctuation of the elytra entirely lacking, and the pubescence is much better developed. In *dispar* the pubescence of the elytra is almost as nearly obsolete as in *castaneum* and *politum*, but these two species are at once separable by their non-sulcate middle tibiae. Since writing the above I have seen another example of this species taken at Brownsville, Texas, by Mr. Barber.

23. **C. nigritulum** Lec.—Black, or piceous, form moderately robust, less than twice as long as wide, not narrowed behind and scarcely gibbous in profile. Pubescence sparse and very fine. Head and pronotum finely moderately closely evenly punctulate, without intermixed coarser punctures, the punctures slightly larger close to the side margins of the pronotum. Elytra finely numerous punctulate, with scattered somewhat larger punctures, which are, however, not very conspicuous. Metasternum finely sparsely punctate throughout. Eighth antennal joint broadly triangular. Front tibiae bisulcate; middle tibiae sulcate. Length 1.7–2.4 mm.

*Hab.*—Massachusetts (Tyngsboro, Blanchard); District of Columbia; Virginia (Roslyn); West Virginia (Berkeley); Ohio (Cincinnati, Dury); Michigan (Grand Ledge); Tennessee (Memphis, Soltan); Mississippi (Meridian); Indian Territory (Atoka, Wickham); Texas (Columbus).

The above description applies to typical specimens, but there is much variation in punctuation of the elytra within what I have assumed to be specific limits. The fine punctures may nearly dis-

appear, leaving the surface sparsely moderately coarsely punctate and very shining, or on the other hand the coarser punctures may become quite inconspicuous, though always present. I have placed here several brown specimens which are possibly different, but at present seem too feebly characterized to separate under a distinct name.

24. **C. vestitum** n. sp.—Reddish brown or somewhat darker, color and sculpture nearly concealed by the rather dense yellowish gray pubescence. Form parallel, slightly less than three-fifths as wide as long, a little more obtusely rounded behind, scarcely gibbous in profile. Coarser punctuation well developed, slightly strongest at sides of pronotum. Metasternum punctate at middle, the punctures very sparse or quite absent at sides. Eighth antennal joint triangular, about twice as long as wide, the terminal edge oblique. Front tibiae bisulcate; middle tibiae sulcate. Length 2.8–3.5 mm.

*Hab.*—California (Pasadena, Riverside and Ft. Yuma); Arizona (Tucson); Lower California (San Jose del Cabo).

Most nearly resembles *luteotectum*, but this latter has nonsulcate middle tibiae and still denser pubescence, which is more distinctly yellow in color. The coarser punctuation is much less developed and the front tibial grooves are strictly marginal and thus more widely separated than in *vestitum*.

25. **C. palliatum** Fall.—Rufocastaneous, surface entirely concealed by the very dense yellowish white pubescence. Form short and strongly convex, two-thirds as wide as long, quite strongly gibbous in profile. Coarser punctures sparse and fine. Metasternum finely very sparsely punctate from side to side. Eighth antennal joint triangular, one-half longer than wide, terminal edge oblique. Front tibiae finely bisulcate; middle tibiae with a fine marginal groove. Length 1.8–2 mm.

*Hab.*—California (Yuma and Needles, Wickham).

I have taken this species early in July at Yuma, where it occurred on a species of *Dalea*. It is the most broadly oval and most densely pubescent species in our fauna.

26. **C. placidum** n. sp.—Brown, moderately pubescent, very slightly more than half as wide as long, oblong-elliptical, not gibbous in profile. Coarser punctures moderately numerous but not large on the elytra, a little finer still on the pronotum and very inconspicuous though visible on the head. Metasternum finely sparsely punctate at middle, the punctures not extending to the sides. Eighth antennal joint one-half longer than wide, triangular. Front tibiae bisulcate; middle tibiae with a distinct marginal groove. Length 3–3.2 mm.

*Hab.*—Lower California (San Jose del Cabo).

27. **C. debile** Lec.—Reddish brown, nearly three-fifths as wide as long, not evidently narrowed behind and not at all gibbous in profile. Pubescence moderate. Coarser punctures fine and inconspicuous throughout, a little more evident on the elytra. Metasternal punctures fine not or scarcely reaching the sides. Eighth antennal joint nearly or quite as wide as long, quadrately triangular. Front tibiae bisulcate; middle tibiae finely sulcate close to the posterior margin. Length 1.6–1.9 mm.

*Hab.*—Florida (Enterprise, St. Lucia, Biscayne, Miami, Key Largo, Elliott's Key). Numerous specimens, collections of Hubbard and Schwarz, and Beyer.

The apex of the terminal palpal joints is more deeply sinuate or notched than in any other species except *punctulatum*.

28. **C. posticum** n. sp.—Dark brown, elytra reddish in apical two-fifths. Form just visibly narrowed posteriorly, distinctly though not strongly gibbous in profile. Pubescence fine and sparse; coarser punctures evident but everywhere fine and inconspicuous. Metasternum sparsely finely punctate throughout. Eighth antennal joint broadly, subquadrately triangular, a little longer than wide. Front tibiae bisulcate; middle tibiae finely sulcate. Length 1.75 mm.; width 1 mm.

*Hab.*—Texas. Three examples taken by Mr. Schwarz at San Diego.

29. **C. tumidum** n. sp.—Dark brown or fuscous, slightly more than half as wide as long, a little narrowed posteriorly and rather strongly gibbous in profile. Pubescence fine and short. Coarser punctures rather numerous but fine and inconspicuous on the head, quite strong and close at the sides of the pronotum, nearly as large but sparser on the elytra. Metasternum sparsely, evenly, finely punctate from side to side. Eighth antennal joint about one-third longer than wide, triangular, with outer angle rounded and terminal edge moderately oblique. Front tibiae bisulcate; sulcus of middle tibiae nearer the middle than the margin. Length 2.5–3.7 mm.

*Hab.*—Texas (Fedora, San Diego, Cypress Mills); New Mexico.

One example from Laredo, Texas, in Hubbard and Schwarz collection is doubtfully placed here; the metasternum is more coarsely punctate, and the groove of middle tibiae more nearly marginal.

30. **C. nubilum** n. sp.—Reddish brown varying to darker; elytral suture nearly always paler toward the apex, the elytra especially posteriorly usually feebly vittate, the sides of the pronotum often clouded with fuscous. Form slightly or scarcely narrowed behind, elytra elliptically rounded at apex, sides of prothorax straighter than usual, making the outline nearly hyperbolic in front, the thorax seemingly smaller than common; outline scarcely at all gibbous in profile. Pubescence fine and short. Coarser punctures lacking on the head, very fine and inconspicuous elsewhere. Metasternum finely punctate, the punc-

tures closer at the middle, very sparse laterally but attaining the sides. Eighth antennal joint about two-fifths longer than wide, triangular, the apical edge oblique. Front tibiae bisulcate; middle tibiae with strictly marginal groove. Length 2.2-3.2 mm.

*Hab.*—California (Pomona, Pasadena, San Diego, San Bernardino County).

The elytral vittae are at best feeble, but are visible with a fairly good glass, except in one or two of the very darkest specimens.

31. **C. longulum** n. sp.—Dark brown, one-half as wide as long, parallel, not at all gibbous in profile, pubescence fine and sparse. Coarser punctures scarcely visible on the head, present in moderate numbers at the sides of the pronotum and on the elytra, but small and inconspicuous. Metasternum finely punctured throughout, the punctures a little larger and closer at the middle, widely separated at the sides. Eighth antennal joint about one-third longer than wide, parallel for a short distance at apex, the apical angle nearly right. Front tibiae bisulcate; middle tibiae sulcate. Length 2-2.2 mm.

*Hab.*—Arizona. Described from four examples taken by Barber and Schwarz at Williams and Bright Angel. With these is included a nearly identical specimen taken by the same collectors at Las Vegas, New Mexico. The narrow form and elongate metasternum readily separate this species from the otherwise allied species.

32. **C. uniforme** n. sp.—Pale brown, oblong-elliptical, not gibbous in profile, pubescence moderate. Coarser punctuation obsolete on the head, visible but sparse, fine and inconspicuous at the sides of the pronotum and throughout the elytra. Metasternum finely sparsely punctate from side to side. Eighth antennal joint very nearly twice as long as wide, the terminal edge strongly oblique, the apical angle obtuse. Front tibiae bisulcate; middle tibiae finely sulcate along the posterior margin. Length 4 mm.

*Hab.*—New Mexico (Mesilla Park?). One specimen bearing the following legend: "In garden, March 14, in pith of dead sunflower stem." The specimen was collected by Cockerell and sent to Mr. Wickham from whom I received it.

33. **C. fastigiatum** n. sp.—Brown, oblong-elliptical, a little more than half as wide as long, not gibbous in profile; pubescence fine, rather sparse. Coarser punctuation fine and indistinct on the head, fine but more distinct at the sides of the pronotum, moderate on the elytra, becoming close and strong toward the apex. Metasternum punctured finely from side to side, very sparsely laterally, more closely at middle. Head obtusely, vaguely, longitudinally carinate. Eighth antennal joint about one-third longer than wide, subparallel at apex. Front tibiae bisulcate; middle tibiae with a sharply defined marginal groove. Length 2.5-2.9 mm.

*Hab.*—Texas. Several examples in Hubbard and Schwarz col-

lection taken at San Diego, others collected at Brownsville by Dury and Barber.

The cephalic carina is a character peculiar to the present species; it is indistinct in certain lights but plain enough in others.

34. **C. otiosum** n. sp.—Dark brown, apical third of elytra feebly rufescent. Form oblong-elliptical, very nearly twice as long as wide, a little gibbous in profile; pubescence fine and short. Coarser punctures distinct and moderately strong on elytra and sides of pronotum, finer but plainly visible over the entire front. Metasternum polished, the finer punctures excessively minute and sparse, the coarser ones nearly reaching the sides where, however, they are remote. Eighth antennal joint triangular, slightly longer than wide, the apical angle nearly right. Front tibiæ deeply bisulcate, the grooves separated by a distance only slightly greater than that of the posterior one from the margin. Middle tibiæ deeply sulcate. Length 2.4–2.7 mm.

*Hab.*—Lower California (Santa Rosa). Two examples collected by Mr. Beyer.

35. **C. congruum** n. sp.—Dark brown, moderately elongate, oval, parallel as viewed from above, slightly gibbous in profile; pubescence rather short and sparse, fulvo-cinereous. Coarser punctuation moderate in development on the elytra and at sides of pronotum, feeble on the head. Metasternum very sparsely nearly uniformly punctured from side to side. Eighth joint of antennæ slightly longer than wide, the inner edge rounded. Front tibiæ bisulcate, the grooves deep, complete and mutually more distant than from the margins; middle tibiæ with marginal groove. Length 1.6–2.1 mm.

Brownsville, Texas. Collected by Mr. Barber.

Rather closely allied to *otiosum* of Lower California, but smaller, a little stouter and with the grooves of the front tibiæ less approximate.

36. **C. vexatum** n. sp.—Brown, oblong-elliptical, twice as long as wide, not at all gibbous in profile; pubescence fine and rather sparse. Coarser punctures somewhat variable in development but usually moderate in size and not very prominent. Metasternum punctured from side to side. Eighth antennal joint slightly longer than wide, quadrate triangular. Front tibiæ bisulcate; middle tibiæ sulcate. Length 2.5–3.5 mm.

*Hab.*—New York; District of Columbia; Virginia; West Virginia; Ohio; Kentucky; Illinois; Kansas; Texas.

Single examples from Louisiana and Georgia are also included, though departing considerably from the typical form of the Middle Atlantic States. Two examples from Washington, D. C., are nearly black. In one of these the anterior groove of the front tibiæ is nearly obliterated, and in the other it is abbreviated. It is not



possible to say whether this is more than an accidental variation. As might be expected in a species of so wide a range the variation in minor details—chiefly surface sculpture—is considerable; not so great, however, as in *nigritulum*, a species of almost identical range. The chief difficulty is to draw a line between this and *grave*, the varieties of the two species approaching one another in a puzzling way. The typical forms are easily separable; the present being distinctly more elongate in form, with sparser shorter pubescence, less flattened eyes and non-impressed front.

37. **C. robustum** Horn.—Brown, oblong-elliptical, evidently less than twice as long as wide, not or but feebly gibbous in profile. Pubescence short but moderately dense, yellowish gray. Coarser punctuation moderate, showing a tendency to a striate or vittate arrangement on the elytra, especially toward the sides. Metasternum punctured throughout, but very remotely at the sides. Eighth antennal joint triangular, a little longer than wide. Front tibiae bisulcate; middle tibiae sulcate. Length 3.5–4.5 mm.

*Hab.*—Southwestern Texas.

The larger measurement given above is on the authority of the original description; of the five examples before me the largest is only 4 mm. in length. The largest specimens of *grave* approach in size the smaller ones of *robustum*, but may be distinguished by their less dense relatively longer pubescence and flatter more strongly compressed eyes.

38. **C. grave** Lec.—Brown, form quite robust, oblong-elliptical, slightly less than three-fifths as wide as long, not distinctly gibbous in profile. Pubescence moderately plentiful, but not concealing the surface sculpture; coarser punctures distinct throughout, moderate in size. Metasternum punctured from side to side, the punctures finer and very sparse laterally. Eighth antennal joint triangular, a little longer than wide. Front tibiae bisulcate; middle tibiae sulcate. Length 2.2–3.7 mm.

*Hab.*—Massachusetts, New York, New Jersey, Pennsylvania, Maryland, Alabama (Oak Grove); Tennessee (Memphis); Louisiana (Covington, Mandeville, Baton Rouge).

The eyes, at least in the female, are flatter and more strongly compressed than in any other species known to me. In nearly all specimens there is a somewhat vague impression of the front close to the anterior inner margin of the eyes. This impression, distinct enough in certain lights, may be easily overlooked. I have not noticed it in any specimen of *vexatum*, with which species *grave* is most likely to be confused. For further comparison of these two see remarks under *vexatum*.

39. **C. porosum** n. sp.—Brown, elytra feebly rufescent toward the apex, very nearly three-fifths as wide as long, oblong-elliptical, slightly gibbous in profile, pubescence moderate. Head densely not very finely punctulate, with slightly larger intermixed punctures which are not very conspicuous. Pronotum moderately punctate at sides; coarser punctures of elytra strong and rather numerous, especially at the sides and apex. Metasternum very coarsely punctured throughout, the punctures as close and as large at sides as at the middle. Antennæ and legs as in *grave*. Length 2.2–2.5 mm.

*Hab.*—Florida (Capron, Crescent City and Tampa); Texas (Columbus and Victoria).

Closely resembles a small *grave*, from which it may be more readily distinguished by the very coarse punctures of the metasternum, which are not finer and more distant at sides. In the Texas example the coarser punctures of the head are large and conspicuous, and those of the pronotum and elytra more numerous and coarser still than in the typical form. It represents a well marked geographical race at least.

40. **C. convexum** n. sp.—Dark brown, pubescence short but moderately plentiful. Rather robust, oblong-elliptical, almost three-fifths as wide as long, strongly convex and very slightly gibbous in profile. Coarser punctures distinct, of nearly equal size and distribution throughout the elytra, moderate in size and number at sides of pronotum, few and not conspicuous on the head. Metasternum moderately punctate at middle, more finely and very sparsely at sides. Eighth antennal joint about one-third longer than wide, subparallel toward the apex, the angle nearly right. Front tibiæ bisulcate; middle tibiæ with a fine but distinctly impressed marginal groove. Length 2.2–2.6 mm.

*Hab.*—Lower California (Santa Rosa, Beyer); Arizona (one example in LeConte cabinet).

41. **C. castaneum** Hamilton.—Rufocastaneous varying to piceous. Pubescence of elytra excessively short and sparse, barely visible with a good triplet; hairs of head and pronotum very fine and sparse but longer and more evident. Form oblong-elliptical, distinctly more than half as wide as long, very feebly gibbous in profile. Upper surface highly polished throughout; head minutely punctulate; pronotum similarly finely sparsely punctulate at middle, the punctures gradually larger to side margins; elytra without finer punctuation (exception noted below), the coarser punctures of good size, sparsely evenly distributed on the disk, but showing a tendency toward a stria arrangement laterally, becoming confusedly serial in the shallow impressions or grooves, which continue the lateral striae to the base. Metasternum very sparsely punctured at sides, more closely at middle. Eighth antennal joint triangular and fully as wide as long in the female, distinctly transverse and subquadrate in the male. Front tibiæ bisulcate; the posterior groove nearly complete; middle tibiæ not sulcate. Length 1.5–2.5 mm.

*Hab.*—Massachusetts (Blanchard); Pennsylvania; Texas (Columbus and Goliad); Missouri; Florida (Tampa, Haulover).

In a series of specimens taken at Goliad, Texas, by Mr. Schwarz, the color varies from the typical castaneous to piceous and these darker examples show a distinctly dual punctuation of the elytra; other specimens in the same lot are, however, typical in this respect, and we are thus obliged to regard this as only an individual variation similar to that observed in *nigritulum*. Dr. Hamilton says of this species: "Next to *nigritulum* the most common of this genus near Allegheny and Pittsburg. On *Vaccinium* and other low bushes, June and July, not abundant."

42. **C. politum** n. sp.—Castaneous, inclining to rufous at the elytral apex. Very similar to *castaneum*, but differing as follows: The form is a little more elongate, less convex when viewed in profile, the elytra slightly narrowed from the humeri in most specimens. Lateral striae of elytra not continued toward the base by shallow grooves, the punctures showing no tendency toward a serial arrangement. Metasternum at side one and one-half times the length of the second ventral segment (nearly or quite as long as the second and third united in *castaneum*), posterior groove of the front tibiae obsolete in apical half. Length 1.5–1.9 mm.

*Hab.*—Florida (Biscayne, Key West, Punta Gorda, Tampa).

All specimens seen were collected by either Hubbard or Schwarz.

This species resembles *castaneum* closely and has thus far been confused with it. With a little care the two species should be separated with certainty.

43. **C. triviale** n. sp.—Brown, of varying shade, the elytral apex usually of brighter tint. Form slightly ovate, distinctly though not strongly gibbous in profile; pubescence moderate; coarser punctuation everywhere very fine and indistinct. Metasternum punctate throughout, but very sparsely and finely at sides. Eighth antennal joint triangular, about one-fourth longer than wide. Front tibiae rather finely bisulcate; middle tibiae not sulcate. Length 1.4–2 mm.

*Hab.*—Texas (Dimmit County; Beeville; San Diego; Brownsville; Uvalde; Del Rio; Big Spring). Arizona (one example collected by Morrison)

The form, small size and nearly invisible coarser punctuation make this species comparatively easy of recognition.

44. **C. conjunctum** n. sp.—Dark brown, slightly ovate, and a little gibbous in profile; pubescence short, cinereous and moderately dense; coarser punctuation fine and sparse on the elytra, very fine and indistinct on the prothorax, and practically absent on the head. Metasternum finely sparsely punctured throughout. Front tibiae bisulcate; middle tibiae not sulcate. Length 2.8 mm.

*Hab.*—California (Fresno). Described from a single example in the Hubbard and Schwarz collection. Closely related to *triviale*, but the much larger size and denser pubescence are quite sufficient to distinguish it.

45. **C. boreale** Lec.—Rather robust, a little gibbous in profile, moderately pubescent; upper surface finely densely punctulate without trace of coarser punctures on the head and pronotum, and with very few on the elytra, these being sparse and indistinct. Metasternum very sparsely but obviously punctate at sides. First joint of antennal club triangular, about twice as long as wide, the outer edge very oblique. Length 2.3–3 mm.

*Hab.*—Lake Superior (type); Michigan. (One example in my own collection so referred.)

The large size, very fine and dense punctulation with the virtual absence of larger punctures, and the very elongate eighth antennal joint easily mark this as an unusually distinct species. It is most closely approached by *densum*, which is distinguished by the sulcate middle tibiae and more transverse eighth and ninth joints of antennæ.

46. **C. pusillum** Lec.—Brown, somewhat densely clothed with rather long pale yellowish pubescence. Form robust, quite three-fifths as wide as long, not distinctly narrowed behind, a little gibbous in profile; coarser punctuation feeble on the head, but quite strong at the sides of the pronotum and on the elytra. Metasternum sparsely, moderately strongly punctured at middle, the punctures becoming finer laterally and scarcely reaching the sides. Eighth antennal joint triangular, fully one-third longer than wide. Front tibiae bisulcate; middle tibiae not sulcate. Length 2–2.5 mm.

*Hab.*—Arizona, Yuma (type), Camp Thomas; Lower California (San Jose del Cabo). Some specimens are labelled Alameda Co., California; I suspect erroneously.

47. **C. consobrinum** n. sp.—Dark piceous brown, a little less than three-fifths as wide as long, slightly narrowed from the humeri, distinctly gibbous in profile; pubescence fine and short. Coarser punctures of head numerous and distinct; a little coarser and more conspicuous over a wide area at sides of pronotum; fine but evident across the base of the elytra, becoming rapidly larger at about the basal fourth, then increasing visibly in coarseness toward the apex. Metasternum finely, very sparsely, nearly evenly punctate from side to side, the surface polished and with scarcely visible finer punctuation. Front tibiae deeply bisulcate almost throughout their length; middle tibiae not sulcate. Length 2.2–2.7 mm.

*Hab.*—Arizona (Oracle, Tucson); New Mexico.

Closely related in most respects to *abbreviatum* and *simile*, which see for a statement of differences.

48. **C. simile** Lec.—Very closely related to *consobrinum*, and it is quite possible that these two are only geographical races of one species. The few specimens seen differ constantly in being of less slender form, the ratio of width to length varying from .58–.61, while in *consobrinum* it is very close to .56 in each of the five examples seen. The coarser punctures of the head are much less distinct in *simile*, and the finer punctuation of the metasternum is quite evident, being almost entirely obsolete in *consobrinum*. Length 2.7–3 mm.

*Hab.*—Florida (Biscayne and Key Largo).

The region inhabited by *simile* is thus seen to be identical with that occupied by *abbreviatum*, to which both this and *consobrinum* are closely related. *Abbreviatum* is distinctly stouter than either; in several measured specimens the rate of width to length varying from .63–.65; the head is practically devoid of coarser punctures, while those of the pronotum are much finer and less numerous, being confined to the vicinity of the front angles; the lateral striæ of the elytra reach only the apex of the second ventral segment, while in both *simile* and *consobrinum* the lateral striæ or one of them at least reaches the base of this segment, the grooves of front tibiæ while somewhat variable are never so completely developed as in *simile* and *consobrinum*.

49. **C. pingue** n. sp.—Brown, moderately pubescent, broadly ovate, a little more less than three-fifths as wide as long, distinctly gibbous in profile. Coarser punctuation distinct on the anterior portion of the head, becoming obsolete posteriorly; distinct but rather inconspicuous at the sides of the pronotum; a little stronger on the elytra. Metasternum punctate at middle, nearly or quite smooth at sides. Eighth antennal joint fully one-half longer than wide, subparallel externally, apical angle feebly obtuse. Front tibiæ bisulcate; middle tibiæ not sulcate. Length 2.2–3.1 mm.

*Hab.*—Arizona (Santa Rita Mountains, Oracle, Bright Angel, Pinal Mountains, Williams, Ash Fork).

There is some variation in the distinctness of the intermixed coarser punctures, these being scarcely detectable in the single specimen from Ash Fork.

50. **C. vacuum** n. sp.—Closely related in most respects to *pingue*, but seemingly distinct by its narrower (not over three-fifths as wide as long) and more parallel form, and much coarser intermixed punctuation. In both species the posterior groove of the front tibiæ is deep and not strictly marginal, leaving the intermediate area narrow and quite strongly convex. The anterior groove is less deep and abbreviated basally in *pingue*, but is somewhat better developed in *vacuum*. Length 2.25–2.5 mm.

*Hab.*—Tucson, Arizona, four examples; Brownsville, Texas, numerous examples (Dury and Barber).

This species is closely related to the next, which is, however, still more coarsely punctured, and occupies a different faunal region.

51. **C. cicatricosum** n. sp.—Dark brown, moderately pubescent. Rather robust, oblong-elliptical, three-fifths as wide as long, a little gibbous in profile. Coarser punctuation very strong and conspicuous, though relatively less so on the head. Metasternum sparsely punctate at middle, smooth at sides. Eighth antennal joint quadrate-triangular, scarcely one-third longer than wide. Front tibiae bisulcate, the posterior groove well separated from the margin; middle tibiae not sulcate. Length 2.3–2.45 mm.

*Hab.*—Florida. National Museum collection.

52. **C. luteotectum** Fall.—Rufocastaneous, densely clothed with short recumbent luteous hairs, which almost completely conceal the surface sculpture. This when visible is seen to be very fine, with the coarser punctures sparser and finer than usual. Form elongate-elliptical, four-fifths longer than wide, slightly gibbous in profile. Metasternum very sparsely punctate throughout. Eighth antennal joint twice as long as wide, triangular, the sides subparallel outwardly. Front tibiae bisulcate, the grooves marginal and widely separated. Middle tibiae not distinctly sulcate. Length 3.8–4.3 mm.

*Hab.*—California (Palm Springs).

In my original description Riverside and Yuma are also cited as localities. These, however, belong to specimens of *vestitum*, which were then confused with the present species. With the exception of *palliatum* no other species is so densely pubescent as this, and except *uniforme* none approach it in extreme length of the eighth antennal joint.

53. **C. geminatum** n. sp.—Castaneous, strongly shining when denuded, pubescence moderate, form faintly gibbous in profile. Surface finely punctulate throughout as usual, the coarser punctures virtually wanting on the head, small and not very numerous at the sides of the prothorax, but more obvious near the front angles; rather strong on the elytra, where they are arranged in well defined double rows which do not reach the base. Lateral striae continued to base by shallow punctured grooves. Metasternum nearly devoid of larger punctures at sides; front tibiae bisulcate, the grooves not widely distant; middle tibiae without marginal groove. Length 3 mm.

A single example from "California" in the Horn collection. The specimen is almost completely denuded, but from remnants of the pubescence I should judge it was not sufficiently dense to conceal the sculpture. This species is of nearly the same size as *luteotectum*, but is slightly less robust and a little less symmetrically arched in profile; the pubescence is also sparser and the grooves of the front tibiae less widely separated.

54. **C. gracile** n. sp.—Red-brown, parallel, very nearly twice as long as wide, not at all gibbous in profile; pubescence very fine and rather sparse. Coarser punctures virtually lacking on the upper surface. Metasternum very finely evenly punctulate and finely alutaceous without evident coarser punctures. Inner lateral stria of elytra indistinct, the outer one very short. Eighth and ninth antennal joints strongly transverse and triangular, the eighth almost twice as wide as long. Front tibiae not very deeply bisulcate; middle tibiae not sulcate. Length 1.7 mm.

*Hab.*—Ohio (Cincinnati, Dury).

Two examples only of this very distinct little species have been seen. I suspect that both are males, and if so the strongly transverse eighth and ninth joints of antennae may prove to be peculiar to the sex.

55. **C. mancum** n. sp.—Red-brown to piceous brown, oblong-elliptical, rather robust, fully three-fifths as wide as long, pubescence moderate. Lateral striae of elytra finer than usual, the inner one often feeble or indistinct. Coarser punctuation a little variable but usually fine and inconspicuous. Metasternum punctured at middle. Eighth antennal joint a little longer than wide, subparallel apically. Front tibiae bisulcate; middle tibiae not sulcate. Length 1.7-2.5 mm.

*Hab.*—California (Sonoma to San Diego).

This is the commonest, most widely diffused and most variable of the California species. Specimens are not rare that show the indistinct subvittate elytra so common in *nebulosum*, but in the latter the lateral striae are both deeply impressed.

56. **C. validum** n. sp.—Brown, oblong-elliptical, slightly more than half as wide as long, not gibbous in profile, pubescence moderate. Coarser punctures few and fine on the head, most evident near the eyes, distinct but not large at the sides of the pronotum, a little larger on the elytra, especially at sides, where they show a tendency to a serial arrangement. Metasternum finely very sparsely punctured at middle, scarcely at all so at sides. Eighth antennal joint triangular, about one-third longer than wide. Front tibiae deeply bisulcate; middle tibiae sulcate. Length 3.4-4 mm.

*Hab.*—Texas (Belgrave), National Museum collection.

In size and form this species is very similar to *robustum* and *uniforme*, both of which, however, have the middle tibiae sulcate. There is observable in certain lights a very feeble median longitudinal frontal elevation. This is in no example as distinct as in *fastigiatum*, and may easily be entirely overlooked.

57. **C. confusum** n. sp.—Dark piceous brown, oblong-elliptical, a little less than three-fifths as wide as long, not obviously gibbous in profile; pubescence moderate. Coarser punctures small but evident on the head, numerous and



rather large at the sides of the pronotum and on the elytra. Metasternum quite numerous and moderately strongly punctate at middle, rather broadly impunctate at sides. Eighth antennal joint quadrate-triangular, scarcely more than one-fourth longer than wide. Front tibiae bisulcate, middle tibiae not sulcate. Length 2-2.7 mm.

*Hab.*—Texas (San Diego, Columbus, Beeville, Luling, Hockley, San Antonio, Fedor); Indian Territory (Atoka, Vinita, South McAlistar); Illinois; Kentucky; Ohio; Kansas; Louisiana; Iowa; Lower California (Santa Rosa).

Under this name I have placed a large number of specimens from a wide range of territory. There is considerable variation in the development of the coarser punctuation and some are very feebly gibbous in profile; these latter approach so closely to the less strongly gibbous form of *vacuum* that it is next to impossible to separate them with certainty. Typical examples of the two species are easily separable, the present species being scarcely at all gibbous in profile, while *vacuum* is rather strongly so. For the rest it can only be said that in *confusum* the pubescence is a little longer and denser, the punctuation somewhat finer and the impression along the anterior marginal line of the metasternum externally is more gradual and feebly defined, while in *vacuum* it is more abrupt and in the form of an elongate fovea. The assumed polymorphism of *confusum* is probably not real, and I have little doubt that I have confused several closely allied species, but they are not separable by any constant characters that I can at present discover.

The Lower California series is in it-self complex and varies both above and below the limits of size mentioned for the Texas specimens, which are to be considered the types. *C. herbarum* Gorb., St. Vincent, W. I., is nearest *confusum*, but the head and pronotum are almost destitute of any trace of coarser punctures. These are quite large and conspicuous in the elytra, with a distinct tendency toward arrangement in lines.

58. **C. angustum** n. sp.—Dark brown, moderately densely pubescent; form unusually elongate, not gibbous in profile. Coarser punctures few and small on the head and prothorax, much more numerous and of medium size on the elytra. Metasternum punctured from side to side, the punctures not much closer at the middle. Front tibiae bistriate, middle tibiae without marginal groove. Length 2.5 mm.

Kansas, Hamilton County (Snow).

One of the more conspicuously elongate forms; the metasternum however, is of normal length.

59. **C. parvum** n. sp.—Red brown, shining, pubescence fine and rather sparse, form more elongate than usual, less than three-fifths as wide as long, not at all gibbous in profile. Punctuation sparse and fine, with scattered inconspicuous somewhat larger punctures. Metasternum with a few fine punctures at middle, these disappearing before reaching the episterna. Front tibiae bisulcate, middle tibiae non-sulcate. Length 1.75 mm.

Northern Illinois. A single example submitted by Mr. Blanchard.

The genera facies suggests *castaneum*, but the form is more elongate and the pubescence of normal length.

60. **C. turbidum** n. sp.—Reddish brown, moderately pubescent, not at all gibbous in profile. Coarser punctures numerous and very conspicuous, rather densely crowded at the sides of the pronotum, becoming smaller and sparser toward the middle; coarse and evenly distributed on the elytra; interspaces between the coarser punctures distinctly finely punctulate. Metasternum finely punctate at middle, scarcely at all so at sides. Front tibiae bisulcate, middle tibiae nonsulcate. Length 1.5 mm.

Georgia. A single example in the Horn collection.

The present species may be at once separated from all others in its vicinity by the small size and coarse sculpture. Of our other species *dispar* alone is comparable in size, and in this the pubescence is very short, the finer punctuation lacking, and the middle tibiae sulcate.

61. **C. auctum** Lec.—Red-brown to piceous brown, oblong-elliptical, scarcely at all gibbous in profile. Coarser punctures of upper surface moderately strong and numerous, punctuation of the metasternum most pronounced at the middle, but with sparser finer punctures reaching quite to the sides. Eighth antennal joint quadrate-triangular, not much longer than wide. Length 1.6–2.3 mm.

*Hab.*—Florida, Capron (type), Baldwin, Pensacola, Tampa, Key West, Miami, Key Largo.

The type is very small, red-brown, with distinct traces of a third shallow inner stria at the middle of the elytra. Miami and Key Largo specimens are uniformly darker brown and of larger size. In the series before me these latter are almost perfectly connected by intermediates with the type which I suspect is really aberrant. The elevated granule at the side of the elytra mentioned by LeConte does not exist, a fact of which I was thoroughly satisfied, even before giving the type a careful examination. The punctuation of the sides of the metasternum is very sparse but seems to be always present, and with some experience I believe this character sufficient to distinguish *auctum* from *indistinctum*, which is also a trifle less robust and a little less coarsely punctured.

62. **C. indistinctum** n. sp.—Brown, oblong-elliptical, very nearly three-fifths as wide as long, not gibbous in profile, moderately pubescent. Coarser punctuation evident but not conspicuous. Metasternum punctate at middle, the punctures virtually or quite lacking at sides. Eighth antennal joint quadrate-triangular, a little longer than wide. Front tibiæ bisulcate; middle tibiæ not sulcate. Length 1.7–2.3 mm.

*Hab.*—Washington, D. C. (type); Piney Point, Maryland; Roslyn, Virginia; Detroit, Michigan; Punta Gorda, Florida.

The Florida specimens are very slightly more strongly punctured but do not seem otherwise separable. They resemble *debile* quite closely, but this latter species has the middle tibiæ sulcate and is more finely sculptured.

63. **C. exiguum** n. sp.—Brown, elliptical, rather strongly convex and almost two-thirds as wide as long, not gibbous in profile, pubescence moderate. Coarser punctures fine and few on the head, evident but small near the side margin of the pronotum, larger but sparse and not conspicuous on the elytra. Metasternum punctate at middle, broadly smooth at sides. Eighth antennal joint quadrate-triangular, a little longer than wide. Front tibiæ bisulcate, the grooves widely distant; middle tibiæ not sulcate. Length 1.6–1.9 mm.

*Hab.*—California (Pomona, Los Angeles, Poway); Lower California (Santa Rosa).

There is no other known species in the region in which this occurs with which it can be confused.

64. **C. obsoletum** Lec.—Piceous brown, the head, thorax and abdomen dark rufous or rufescent; oval, three-fifths as wide as long, the sides of the elytra feebly divergent from the humeri to the middle, profile scarcely gibbous, pubescence moderate. Coarser punctures nearly lacking on head and pronotum; elytra thickly punctulate, the coarser punctures rather small though evident. Metasternum rather coarsely punctate at middle; sides broadly subimpunctate, an elongate fovea close to the raised front margin and near the sides. Eighth antennal joint quadrate-triangular, a little longer than wide. Front tibiæ bisulcate; middle tibiæ not sulcate. Length 2–2.5 mm.

*Hab.*—Lower California (Cape San Lucas).

The widening of the elytra posteriorly is an almost unique character, observed elsewhere only in *latum*. The latter is a wingless littoral species, and it is not unlikely that *obsoletum* is like it in these respects. We have no knowledge of the condition of capture, and the species is still known only by the few original specimens taken by Xantus. It is doubtless a significant fact that the metasternal fovea of *obsoletum* is also distinctly indicated in *latum*.

**CRYPTORAMA** new genus.

This genus contains a few small species which differ from *Catorama* primarily in the 11-jointed antennæ, absence of the intercoxal hook, and in the very narrowly exposed met-episterna. The head is deeply excavated beneath for the antennæ; the eyes are not at all compressed; the terminal joint of palpi narrow and elongate, very little dilated apically; the scutellum transverse and broadly rounded or subtruncate behind, instead of acute as in *Catorama*. The middle coxæ are widely separated, the mesosternum horizontal in front, becoming vertical and deeply recessed behind under the overhanging metasternum, the front margin of which is truncate and feebly sinuate. The outer face of the front tibia is concave beyond the middle, without marginal or submarginal striæ; the hind coxal plates are more distinctly widened externally; the first tarsal joint fully equal to the next three, and more evidently compressed than in *Catorama*. The elytra are without submarginal striæ. In two of our species the hairs of the upper surface are so directed as to form more or less obvious whirls or vortices. In other points of structure the genus does not differ materially from *Catorama*.

Four species are known to me, two of which were described by LeConte, and assigned by him to *Catorama*.

Form more oblong and elongate, twice as long as wide.

Side margin of prothorax explanate posteriorly; surface dull, minutely alutaceous between the punctures; pubescence normal in arrangement.

**1. oblongum.**

Side margin of prothorax not explanate; surface shining; not at all alutaceous, pubescence vortical . . . . . 2. **vorticale.**

Form more oval, less than twice as long as wide.

Pubescence normal in arrangement . . . . . 3. **minutum.**

Pubescence vortical . . . . . 4. **holosericeum.**

1. **C. oblongum** n. sp.—Oblong-oval, twice as long as wide; brown, surface dull, finely alutaceous; evenly moderately closely finely punctulate throughout; clothed with very short luteous appressed pubescence, which is not vortical in arrangement. Eyes moderate in size, their vertical diameter subequal to half the width of the front. Sides of prothorax flattened at the hind angles. Length 2.5 mm.

*Hab.*—Santa Rosa, Lower California.

One example sent by Mr. Beyer.

This species at long range bears a deceptive resemblance to certain elongate *Catoramas*, notably *punctulatum*. In shape and size

it is similar to *vorticale*, but is easily distinguished by the characters given in the table, in addition to which it may be said that the pubescence is shorter and less dense.

2. **C. vorticale** n. sp.—Oblong-oval, twice as long as wide, brown, moderately shining, finely, evenly not closely punctulate throughout; pubescence rather dense, ochreous in color, the hairs at various points changing in direction so as to present a whorled or subvortical arrangement. Eyes large, their vertical diameter fully two-thirds as great as the width of the front. Prothoracic margin not explanate posteriorly. Length 2.3–3 mm.

*Hab.*—Southern Florida (Biscayne, Miami, Elliot's Key, Key Largo, Key West); Texas (Victoria).

Described from numerous example sent by Schwarz and Beyer. The Texas specimen is not quite like the Florida ones in all respects, but is placed here provisionally.

*Var. minor.*—Three examples in the Hubbard and Schwarz collection seem to agree in all essentials with the above, but are much smaller, 1.5–1.7 mm in length. As no intermediate forms have been seen, it is possible that these represent a closely allied species, but I prefer for the present to cite them as a variety of *vorticale*. They are from Biscayne and Key West.

3. **C. minutum** Lec.—Oval, moderately elongate, black varying to brown, legs and antennæ rufous; finely, evenly, not closely punctulate throughout, pubescence moderate, cinereous. Eyes small, their vertical diameter scarcely more than one-third the width of the front. Length 1.5–2 mm.

*Hab.*—Florida (Enterprise, type); Indian Territory (Atoka, Wickham); Texas (Columbus, San Diego, Brownsville).

The Indian Territory and Texas specimens are very slightly less robust than the Florida ones and average a little larger in size, but as they vary somewhat among themselves in these particulars, the differences are probably not specific.

4. **C. holosericeum** Lec.—Elongate-oval, black or brown, finely evenly punctulate and conspicuously grayish pubescent, the hairs so directed as to give the appearance of an oval dark spot at the middle of each elytron, and forming complete or incomplete whorls at several other points. Eyes small, their vertical diameter subequal to one-third the frontal width. Length 1.4–1.7 mm.

*Hab.*—Florida (Haw Creek, Enterprise, Biscayne, St. Lucia, Key West); New Jersey (Anglesea, Wenzel).

A beautiful little species when in perfect condition. It can only be confused with *vorticale* var. *minor*, which is of about the same size; the latter is, however, distinctly more elongate and with larger eyes.

**STICHTOPTYCHUS** new genus.

Form elongate-oval, convex, similar to *Catorama*, with which it agrees in its oval form and tarsal structure, slightly compressed eyes, dual system of punctuation and other respects except as follows: The head is very deeply excavate anteriorly for the antennæ; the latter are 11-jointed; joints 2-8 of very nearly equal width, the second and third slightly elongate, fourth to eighth evidently transverse and inwardly subserrate. Ninth and tenth triangular, longer than wide; eleventh longer, oval; ninth to eleventh subequal to all the preceding. Scutellum transverse, sinuately pointed behind. Elytra punctate striate. Met-episterna parallel, narrowly exposed. Middle coxæ distant, the mesosternum recessed beneath the metasternum, which is produced in the form of a short, very strongly transverse deflexed lobe similar (except in its deflection) to that of *Dorcatoma*. Metasternum broadly longitudinally sulcate as in *Dorcatoma*, with which genus it further agrees in its arcuate ventral segments and non-sulcate front tibiae.

A single species from our extreme southern border represents this genus, which is in many respects intermediate between *Catorama* and *Dorcatoma*. It is very closely related structurally to *Protheca*, from which the small differences given in the table would doubtfully have served to separate it, but for the much larger size and very different facies.

1. **S. agonus** n. sp.—Elongate-oval, convex, black, antennæ and tarsi pale; pubescence fine, rather sparse, ochreo-cinereous. Eyes rather small, somewhat flattened, their vertical diameter about one-third the width of the front. Head finely punctulate with numerous evenly distributed coarser punctures. Prothorax of the usual form in *Catorama*, except that the front as well as the hind angles are rounded; surface minutely closely punctulate with larger punctures intermixed; the latter rather sparse at the middle of the disk, but becoming rapidly coarser and denser laterally where they are almost in mutual contact. Elytra with regular rows of closely placed punctures, the interspaces sparsely more finely punctured, and the whole surface closely very minutely punctulate. Metasternum distinctly punctate, the punctures nearly evenly distributed, but coarser and therefore somewhat closer anteriorly. Abdomen rather sparsely punctate with the usual minute punctuation. Tibiæ evenly convex and punctate externally. Length 3-3.5 mm.

Texas (Brownsville). A small number of specimens collected by Wickham, Schaeffer and Townsend.

**PROTHECA** LeConte.

This genus was proposed by LeConte for two small species of oblong oval form, semi erect pubescence and punctate-striate elytra. The antennæ were described as 11-jointed, but this applies to one of them only, the other having these organs 9-jointed; in both cases of the type prevailing in allied genera. The last palpal joints are triangular, compressed, nearly as wide as long, with the apex broadly somewhat obliquely truncate. Head deeply excavated beneath for the antennæ. Eyes rather small and only moderately convex, clypeal suture not impressed, obsolete. Prothorax convex, transverse, gradually narrowed in front, the sides nearly straight; hind angles rounded, front angles right and sharply defined. Elytra punctate-striate. Prosternum very short, intercoxal process pointed; coxæ depressed, nearly contiguous. Mesosternum horizontal for a short distance in front, vertical and concave behind. Metasternum channeled, declivous each side, produced between the middle coxæ into a short impressed transverse lobe. Middle coxæ separated by fully two-thirds their own width. Epipleuræ excavated beneath the humeri for the reception of the middle knees, sinuate at the margin and foveate for the hind knees; ventral segments arcuate at middle. Tibiæ not compressed or striate.

Our two species may be distinguished thus:

Antennæ 11-jointed, punctures of elytral series fine, obsolete posteriorly.

**1. hispida.**

Antennæ 9-jointed, punctures of elytral series coarser, distinct to apex.

**2. puberula.**

**1. P. hispida** Lec.—Oblong-oval, scarcely twice as long as wide, brown; pubescence conspicuous, the hairs in part more or less bristling or suberect and changing in direction, though not as distinctly vortical as in *Cryptorama holosericea* and *C. vorticale*. The arrangement is such as to leave a conspicuous darker spot on each elytron before the middle in well preserved specimens. Antennæ 11-jointed, first joint large, second rounded, thicker than the following; 3-8 small, triangular, the third slightly elongate; 4-8 transverse, third, fifth and seventh a little more prominent internally; ninth and tenth subtriangular, one-half longer than wide; eleventh longer, oval; 9-11 together as long as all the preceding. Prothorax coarsely not sparsely punctured; elytra not striate, but with series of moderate punctures which are frequently more or less confused and which become obsolete behind the middle. The entire upper surface minutely punctulate in addition to the more conspicuous punctuation. Scutellum transverse. Metasternum nearly evenly punctate throughout. Abdomen a little less conspicuously but quite plainly so. First tarsal joint nearly equal to the three following. Length 1.6-2.4 mm.



This species ranges from the vicinity of New York to Florida and along the Gulf to Central Texas. The following localities are represented in the material seen : New Jersey (Ft. Lee, Schaeffer) ; Pennsylvania ; Delaware ; Maryland ; District of Columbia ; North Carolina (Round Knob, Hubbard and Schwarz) ; Georgia (type) ; Florida (Enterprise and Key West, Hubbard and Schwarz) ; Alabama (Mobile, Soltan) ; Louisiana (Baton Rouge) ; Texas (Columbus).

2. ***P. puberula*** Lec.—Oval, less than twice as long as wide, dark brown, moderately shining. Pubescence normal, inclined, fine and rather sparse. Antennæ 9-jointed ; first joint moderately thick, second much smaller, subglobose ; third to sixth equal in width, the third obconical ; fourth to sixth shorter, distinctly transverse ; seventh to ninth forming a broader club, longer than the preceding united, the joints of the form and proportions described in the preceding species. Prothorax rather coarsely but not deeply punctate, the punctures moderately sparse at the middle of the disk, closer laterally. Scutellum as long as wide. Elytra feebly striate, the striæ closely regularly punctate ; the punctures becoming finer apically. Beneath sparsely punctate and with the usual minute punctuation. First tarsal joint shorter than the next two combined. Length 1.7–2.2 mm.

*Hab.*—Massachusetts (rare at Tyngsboro, Blanchard) ; New Jersey (Orange Mountains) ; Pennsylvania ; District of Columbia ; Maryland ; Virginia ; West Virginia ; Georgia ; Florida (Baldwin) ; Michigan.

Nearly as widely dispersed as the preceding, from which it may be distinguished, aside from the tabular differences, by the sparser normally directed pubescence, more elongate scutellum and shorter basal tarsal joints. There appears to be very little sexual difference in the size of the eyes, but some examples have the abdomen distinctly flattened or a little concave along the median line, and it is probable that these are males.

### **DORCATOMA** Herbst.

Body oval, moderately elongate, convex, pubescence either recumbent or erect. Head not excavated beneath ; eyes moderate or rather large, slightly roundly emarginate, clypeal suture deeply impressed. Last joint of Maxillary palpus elongate securiform, the outer edge a little oblique ; last joint of labial palpus more broadly triangular, apex squarely truncate and feebly sinuate. Antennæ 10-jointed ; first joint large, auriculate ; second much smaller, dilated at middle ; third to seventh narrower and very small, the third

as long as wide, fourth to seventh strongly transverse, very compactly joined, together less than twice as long as their width; eighth to tenth forming a broad club much longer than all the preceding; eighth transversely triangular, more or less emarginate on apical edge, about as long as the six preceding; ninth similar but less strongly transverse; tenth elongate oval. Prothorax evenly convex, sides nearly straight. Elytra with two nearly entire marginal striae, and in some species a shorter basal third stria. Prosternum short, concave, produced behind into two long more or less widely separated processes, which fit into excavations of the mesosternum. Anterior coxae widely distant, perpendicular, entirely concealed in repose. Mesosternum deeply excavated and largely concealed under the metasternum, which is more or less channeled longitudinally, and produced between the widely separated middle coxae in a short broad lobe, which is squarely truncate in front and more or less narrowed behind by the tarsal grooves. Ventral sutures anteriorly arcuate at middle, deeper at sides. Tibiae not compressed. Tarsi short, first joint as long as the two or three following, these very strongly transverse and somewhat emarginate; terminal joint longer, stout.

I have restricted this genus to those species in which the prosternum is produced behind into two long slender horn-like processes. This peculiar structure is not mentioned in any of the European works to which I have had access, and though properly described by LeConte in his diagnosis of *Dorcatoma*, more than half of the species referred by him to this genus do not possess this character. Of the species on our present list *incomptum*, *tristriatum* and *granum* have therefore been removed from *Dorcatoma*, and with *intermedium* erroneously referred by LeConte to *Cænocara*, and several undescribed species are made to constitute the new genus *Eutylistus* herein described.

Our species of *Dorcatoma*\* are then three in number, separable as follows:

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\* Of the eight European species of *Dorcatoma*, five—*dresdensis*, *setosella*, *chryso-melina*, *serra* and *dommeri*—are before me. The first four of these are doubtless true members of the genus, though I have verified the existence of the prosternal horns in the first two only. *Dommeri* would fall in *Eutylistus*. Of the three remaining species, *punctulata* and *flavicornis* I should judge from their relations to the above, were properly referred; of *lanuginosa* I know nothing.

Pubescence of upper surface recumbent.

Black, more coarsely and more uniformly punctate; joints of antennal club more strongly produced internally... ..1. **dresdensis**.

Brown, more finely punctate, with rather inconspicuous larger punctures sparsely placed.....2. **integer**.

Pubescence erect .....3. **setulosum**.

1. **D. dresdensis** Herbst.—Oval, moderately elongate, convex; black' tibiae more or less rufous, tarsi and antennae paler; surface shining, with fine recumbent grayish pubescence. Head finely punctate, the punctures separated by from one to two times their own diameters; eyes moderate, scarcely larger in the males, distant on the front by nearly twice their vertical diameters. Antennae rufotestaceous, the basal joint darker; fourth joint a little more prominent internally; joints 8 and 9 moderately emarginate on their apical edge in the female, more elongate and emarginate so deeply as to become branched in the male. Terminal joint of maxillary palps slender, more than twice as long as wide, slightly widening toward the apex; last joint of labial palpi broadly triangular, apex transversely truncate and minutely sinuate. Prothorax short, sides strongly convergent and nearly straight, side margin narrower, not visible from above; punctuation nearly as fine as that of the head, nearly uniform in size, the punctures separated by from one to two times their own diameters. Elytra rather more than three times as long as the prothorax, parallel to beyond the middle; punctuation nearly uniform, distinctly coarser and usually closer than that of the prothorax, but somewhat variable; sides with two submarginal striae, the outer entire, the inner sometimes a little abbreviated or more faintly impressed at apex. There is usually a well marked trace of an inner third stria immediately behind the humeral umbone. Metasternum deeply longitudinally sulcate throughout its length and usually with a short oblique impression on each side the median sulcus; punctuation very sparse and fine at middle, denser and coarser laterally, especially in front, where the punctures are obviously though not very conspicuously unequal in size. Abdomen more finely and evenly, and less closely punctate than the metasternum. Length 2.5-3 mm.

This rather common species occurs throughout the northern United States and Canada as far west as Montana (Kalispell, Wickham) and south to Virginia and Missouri. It was described by LeConte under the name *pallicornis* in Austin's list of the Coleoptera of Mt. Washington, but I am quite unable to separate it from European specimens of *dresdensis*, a species common and wide spread in northern and middle Europe.

2. **D. integer** Fall.—Similar in form to *dresdensis*; brown, with legs and antennae paler; pubescence ochreous in color, fine, recumbent. Punctuation finer throughout than in *dresdensis*, the punctures of the upper surface inconspicuously, and of the metasternum distinctly, varying in size. Fourth joint of antennae not prominent internally, the joints of the club not as wide as in *dresdensis*, the eighth and ninth feebly or scarcely emarginate apically, the latter longer than wide. Submarginal striae of elytra a little finer than in *dresdensis*,

the second not quite as long as the outer, a fine third stria extending from base under the humeral umbone nearly to the middle. Metasternum lightly sulcate at middle. Length 2.3-2.8 mm.

*Hab.*—Lake Tahoe, California.

The two examples in my collection exhibit no differences in antennal structure, these organs being similar to but with rather smaller club than those of the female of *dresdensis*. It is quite likely that both examples are females and that the males may approach those of *dresdensis* in the strongly modified outer joints. This species was incorrectly described by me as an *Hemiptychus*.

3. **D. setulosum** Lec.—Oval, moderately elongate, black, feet rufescent, antennæ pale; surface shining, pubescence sparse, short, erect. Punctuation of head and pronotum fine and sparse, that of the elytra a little coarser, but still much finer than in *dresdensis*, and forming more or less regular rows which show a very slight tendency in some examples toward approximation in pairs. Submarginal striæ two in number, the inner slightly abbreviated at apex. Eyes much larger in the males, though apparently variable in size, the front in some examples being narrower than the width of the eye, while in others it is a little wider than the ocular width. Antennæ of same type as in *dresdensis*, but with the fourth joint not at all more prominent internally, and the apical edge of the eighth and ninth joints less deeply emarginate in the male and scarcely at all so in the female. Lower surface finely punctate; metasternum very sparsely so posteriorly, more closely in front, the punctures varying in size; ventral segments uniformly finely punctate. Length 1.75-2 mm.

The following localities are known to me or are authoritatively reported: Canada, New Hampshire, New York, New Jersey, Pennsylvania, District of Columbia, Virginia, Ohio, Michigan, Illinois, Kansas, Georgia, Louisiana.

### BYRRHODES LeConte.

The only character of importance distinguishing this genus from *Eutylistus* is the striation of the elytra. The form is broadly oval, convex, clothed with short, confused, grayish hairs, which are sub-recumbent. The terminal joint of the maxillary palpus is moderately elongate-securiform; of the labial palpus broadly subtriangular, the apex squarely truncate and emarginate, leaving the outer angle acute, the inner rounded. Antennæ 9-jointed, similar in structure to *Eutylistus*, except that the third joint is a little prominent interiorly. Epistomal suture impressed. Eyes minutely barely visibly sinuate in front. Elytra striate throughout, the lateral striæ very little deeper than the discal. Metasternal lobe squarely truncate in front, the outer angles a little acute, scarcely at all nar-

rowed at base by the tarsal grooves. Ventral segments second to fourth equal, fifth not quite as long as the two preceding united, the sutures a little finer at the middle, where they are slightly arcuate, especially toward the base. Other characters are substantially as in *Eutylistus*.

One species only is known.

1. **B. setosus** Lec.—Robust, oval, dark brown, rather densely clothed above with grayish confused subrecumbent hairs; surface shining. Head finely sparsely punctate; front a little wider than the longest diameter of the eye. Prothorax rather sparsely not coarsely punctate, the punctures faintly tuberculiform (their margins slightly raised), the interspaces minutely punctulate. Elytra densely finely punctulate throughout, the interspaces nearly flat on the disk, feebly convex laterally, very much wider than the sharply impressed striæ, of which the two outer ones are more deeply impressed posteriorly. Lower surface, especially the metasternum, more sparsely pubescent; very minutely and sparsely punctulate throughout, the metasternum scarcely visibly so. Metasternum with a fine sulcus or elongate fovea anteriorly. Length 3-3.5 mm.

The larger measurement above is that given by LeConte, whose type was taken at Capron, Florida. The single specimen before me was captured at Enterprise, Florida, by Mr. Beyer, and is now in the National Museum collection. LeConte says the antennæ are 10-jointed, but I can count only nine joints in the specimen at hand. The fifth joint of the tarsi is as in allied genera, distinctly longer than the preceding and not equal to it as described by LeConte, whose description is also inaccurate in some other details.

#### **EUTYLISTUS** new genus.

The present genus is established for those species hitherto referred to *Dorcatoma*, in which the prosternum is broadly truncate-emarginate behind, without processes. The form is as a rule more broadly oval, the punctuation simpler and the fifth ventral segment relatively longer than in *Dorcatoma*, but otherwise the two genera are nearly identical in structure. The antennæ are either 8-, 9-, or 10-jointed, and of the same type as in *Dorcatoma*. The intermediate joints are so small and so compactly joined that they are exceedingly difficult to count, and it is not impossible that there may prove to be some individual variation in number. The emargination of the eye, although small, is inclined to be narrower and more acute than in *Dorcatoma*. Those species at the end of the genus—*granus*, *fallax*, etc.—by their more rotundate form and non-sulcate metasternum form a natural transition to *Ctenocara*. Our species are moderately numerous and are as a rule easily separable.

Elytra rather densely punctured in longitudinal bands which are separated by narrower smooth lines.

Elytra without well-defined third stria .....2. **incomptus**.

Elytra with a well defined though shorter third inner stria at sides.

Lateral striæ coarser, third stria more median in position, size smaller (Pennsylvania to Texas).....3. **tristriatus**.

Lateral striæ fine, third stria more posterior, size larger (California).

• 4. **ulkei**.

Elytra more sparsely punctate, the punctures frequently forming more or less regular rows, but not arranged in longitudinal bands, except obscurely in *levisternus*.

Submarginal striæ entire, and nearly equally deep from base to apex.

Elytra with an inner third stria.

Third stria median in position.....5. **levisternus**.

Third stria basal ..... 6. **granus**.

Elytra with two lateral striæ only..... 1. **intermedius**.

Submarginal striæ abbreviated, or at most very faintly impressed at base.

Base of metasternal lobe evidently narrowed by tarsal grooves; metasternum distinctly punctate .....7. **fallax**.

Base of metasternal lobe scarcely at all narrowed by tarsal grooves; metasternum nearly impunctate .....8. **facilis**.

1. **E. intermedius** Lec.—Broadly oval, shining black, the mouth and legs more or less rufous or rufescent. Pubescence sparse, gray, erect or suberect. Antennæ 8-jointed (see figure). Eyes moderate, separated on the front by less than twice their vertical diameter. Head sparsely punctulate; prothorax finely but more closely punctate; elytra more strongly punctate in irregular rows and with two entire or subentire marginal striæ. Metasternum sparsely rather finely punctate, median sulcus obsolete posteriorly, terminating anteriorly in an elongate fovea. Ventral segments finely, moderately closely punctate, the sutures deep from side to side and scarcely or feebly arcuate at middle. Length 1.7–2.2 mm.

Specimens are known to me from Massachusetts (Tyngsboro); New York; Virginia (Pennington Gap and Roslyn); West Virginia (Fort Pendleton); Ohio (Cincinnati); Michigan (Grand Ledge and Detroit); Arkansas; North Carolina (Highlands); Florida.

2. **E. incomptus** Lec.—Oval, moderately elongate, brown or piceous, head, pronotum (rarely), under surface and legs rufous, antennæ and tarsi pale; pubescence recumbent or subrecumbent, yellowish gray. Eyes separated on the front by more (♀) or less (♂) than their vertical diameter, the distance in the ♂ equaling very nearly the ocular width as seen from the front. Antennæ 10-jointed, the eighth and ninth joints (♂) strongly transverse, rather deeply emarginate apically, the tenth somewhat arcuate; club much smaller in the female. Head, pronotum and under surface finely, nearly evenly, and not closely punctate. Elytra finely closely punctate in longitudinal bands, which are separated

by narrower, smooth unimpressed lines. Lateral striae two, both obliterated before reaching the base. Metasternum rather deeply sulcate, the anterior lobe only slightly constricted by the tarsal grooves: ventral sutures arcuate at middle. Length 2-2.25 mm.

Described by LeConte from Pennsylvania and South Carolina (Zimmerman). Specimens before me are from Tyngsboro, Massachusetts (Blanchard); Pennsylvania (Bowditch); Washington, D. C. and Detroit, Michigan (Hubbard and Schwarz); Southern Illinois (Soltan).

The peculiar elytral punctuation is repeated in the two following species, and obscurely in *levisternus*, all of which differ from *incomptus* in being of stouter form and in having a well marked third stria at the sides of the elytra.

3. **E. tristriatus** Lec.—Very similar to *incomptus*, differing only in its somewhat larger size, more robust form, and in having a well defined third inner lateral stria which is abbreviated both before and behind. Length 2-2.5 mm.

The type was described from "Bosque Co., Texas (Belfrage)." I have seen specimens from Texas; Georgia (St. Catherine Island); Florida (Key Largo); Maryland (Plummer's Island); Pennsylvania and "New York?" (Chittenden). One example in my collection from Louisiana is not quite typical.

4. **E. ulkei** n. sp.—Closely allied to the two preceding species, the latter of which it most nearly resembles in its robust form and in possessing a third inner lateral elytral stria. The size is distinctly larger than in *tristriatus*, being equal in length to a large *Dorcatoma dresdensis* but much stouter. The inner stria begins farther back, not attaining anteriorly the posterior margin of the metasternum, and is formed by one of the smooth lines becoming finely impressed. The two outer striae are also much more finely impressed than in *tristriatus*. In color the head, thorax and under side are rufous, the elytra blackish in one example; the other is entirely castaneous.

Described from two examples from California (locality unknown) in the Ulke collection.

5. **E. levisternus** n. sp.—Broadly oval, rufotestaceous, with sparse erect pubescence, which is inclined forward on the prothorax, and in various directions on the elytra, much as in *Cænocara*. Antennae apparently 9-jointed. Head very sparsely minutely punctulate. Prothorax nearly equally finely but more closely punctulate, with scattered shallow coarser punctures, which are numerous at sides, but more sparsely placed at middle. Elytral punctures arranged in longitudinal bands, though somewhat obscurely so. In *incomptus*, *tristriatus* and *ulkei* these bands are about four punctures in width, the punctures closely placed without trace of serial arrangement. In *levisternus* the bands are made up of three fairly regular series of punctures which are mutually not much more nar-



rowly separated than the bands themselves, the two outer striae of the elytra are entire, the third stria more finely impressed and extending from the base to the apical fourth. Lower surface subimpunctate; metasternum longitudinally impressed at middle, with a sharply defined linear fovea or furrow at bottom of the impression; the anterior lobe feebly narrowed at base by the tarsal grooves. Ventral sutures deep from side to side, arcuate at middle. Length 2.1 mm.

Described from a single specimen collected at Biscayne, Florida, and now in the Horn collection. The front between the eyes is subequal in width to the longest diameter of the eye; the first joint of antennal club triangular, a little transverse, with the apical edge faintly sinuate. These characters seem to indicate that the type is a female, but this is by no means certain. *Levisternus* forms an admirable connecting link between the species which precede and those which follow it. The smooth lower surface is seen elsewhere only in *facilis* and in *Byrrhodes*; the duplex punctuation of the pronotum does not occur elsewhere in *Eutylistus*, and reminds one of *Catorama*.

6. **E. granus** Lec.—Broadly oval, robust, rufous or rufopiceous, surface polished, pubescence ochreous, very sparse, erect. Antennae 8-jointed, the first joint of the club triangular, a little transverse, moderately acute inward, and not differing much in the sexes. Eyes separated by less than their own width as seen from the front in the male, and by a distance subequal to their longest diameter in the female. Head minutely sparsely punctulate. Prothorax sparsely finely, nearly evenly punctate. Elytra sparsely punctate, the punctures a little coarser than on the prothorax and arranged somewhat in rows. Metasternum sparsely, nearly evenly punctate, the punctures coarser than at any other part of the surface; median channel entirely lacking; anterior lobe (fig. 32) deeply constricted at base by the tarsal grooves. Ventral segments sparsely finely punctate, the sutures deep at sides, becoming very fine at middle, where they are somewhat arcuate. Length 1.3-1.5 mm.

Occurs only in Southern Florida. The types are from Enterprise; the specimens before me are from Biscayne and Key West.

7. **E. fallax** n. sp.—Broadly oval, robust; rufous to castaneous in color; pubescence sparse, erect. Antennae 9-jointed, first joint of club transversely triangular, strongly produced inwards in the male, similar but less acute inwardly in the female. Eighth joint elongate-triangular in both sexes. Eyes separated by about half their own width in the male, and by their own width in the female. Head minutely very distantly punctulate. Pronotum finely not closely punctate, the punctures nearly uniform in size and distribution. Elytra more strongly but not coarsely punctured in more or less regular rows. Submarginal striae two in number, nearly obliterated before reaching the base. Metasternum coarsely numerous punctate anteriorly, smoother posteriorly, not at all sulcate at middle; anterior lobe (fig. 33) evidently but not very strongly narrowed at

base by the tarsal grooves. Ventral segments more finely and sparsely punctate than the metasternum, the sutures deeper at sides and arcuate at middle. Length 1.5–1.7 mm.

This species is probably confined to Southern Florida. Single examples have been seen from Enterprise, Haw Creek and St. Lucia (Hubbard and Schwarz collection), and a fourth specimen in the material sent by Mr. Bowditch is labeled simply "Florida."

8. **E. facilis** n. sp.—Broadly oval, rufopiceous or castaneous, polished, pubescence ochreous, very sparse, erect. Antennæ 9-jointed, of the same type as in allied species. Head nearly smooth, the front subequal to the width of the eye as seen from the front in the male, and about equal to the longest diameter of the eye in the female. Prothorax sparsely finely punctate. Elytra sparsely finely punctate, the punctures arranged in fairly regular rows. Lateral striæ two in number, obliterated in front at a point nearly opposite the hind coxal plates. Lower surface almost impunctate. Metasternum broadly feebly longitudinally impressed, the anterior lobe (fig. 34) scarcely at all constricted at base by the tarsal grooves. Length 1.75 mm.

Described from a series collected at Victoria, Texas, by Mr. Schwarz, who writes me that it was found in a hard tree fungus (probably *Agaricus*) in company with *Arrhenophlita ferruginea* and *Ennearthron* sp.

#### CÆNOCARA Thomson.

Body subglobose or rotundate oval, surface polished, deeply punctate, and clothed with sparse erect or suberect pubescence. Antennæ 9-jointed; first joint large, auriculate; second small, dilated at middle; third to sixth very small and compactly joined, the third as long as wide; fourth to sixth very short, strongly transverse and gradually increasing in width; seventh transversely triangular, the inner angle acute, and strongly produced in the male; eighth elongate, a little wider apically, as long as the transverse diameter of the preceding joint, which is hollowed on its outer edge to receive it; ninth elongate-oval, frequently more or less arcuate in the male. Terminal joints of palpi triangular, apex truncate, the form varying in the different species. Eyes variable in size, more or less deeply acutely incised, frequently almost divided. Head not distinctly excavated beneath. Prosternum short, concave, broadly truncate behind; front coxæ widely separated. Mesosternum concave, horizontal in front; vertical, deeply concave and recessed beneath the metasternum behind; middle coxæ widely distant; metasternum large, not channeled, produced between the middle coxæ into a short, broad, anteriorly truncate lobe, which is strongly con-

stricted behind by the tarsal grooves. Ventral segments 1-4 slightly decreasing in length, first deeply excavated for the hind legs and nearly concealed by them; fifth subequal to the two preceding united. Ventral sutures deep, feebly or scarcely arcuate at middle. Legs rather slender; tibiae widest near the middle; tarsi short, stout, the first joint about as long as the next three.

This genus is closely allied to the preceding—*Eutylistus*—but is at once separable by its deeply incised eyes. The form is also more rotundate, becoming almost globose in the majority of species. The second joint of the antennal club, which, in *Eutylistus* and *Dorcatoma*, is more or less broadly triangular, is here much narrower and but feebly dilated apically. The small rounded prominence on the outer edge at the base of the first joint of the front tarsi feebly foreshadowed in *Dorcatoma*, and more distinct in *Eutylistus*, reaches here its greatest development. The lateral striae of the elytra which exhibit considerable variability in *Eutylistus* are practically invariable in *Cenocara*, and consist of two nearly complete outer striae and a third inner basal stria which scarcely reaches the middle.

Owing to the almost complete fixity or uniformity in the more obvious external characters, the separation of species has proved more than ordinarily difficult and has required an amount of study entirely incommensurable with the importance of the genus as indicated by the number of species involved. Fortunately, well marked differences have been discovered in the form of the terminal joints of the palpi and in the sexual modifications of the eyes and antennae, and by these the species may be distinguished with a fair degree of certainty. Once separated in this way, certain other more or less obvious differences appear, which are, however, rarely sufficiently pronounced in themselves to be relied upon. The surest means of separating the sexes lies in the form of the first joint of the antennal club. When both sexes are at hand this will be found to be invariably more strongly produced inwardly in the males, the form in the female being a slightly transverse isosceles triangle in all species. In a large majority of species the terminal joint is sexually modified but in a few species is not; the eyes are also larger and less deeply cleft in the male in about half the species, but in the others scarcely differ in the sexes. These variations were at first very puzzling, and to make sure that the sexes had been properly separated the genitalia were extracted in nearly all species. The male organs are moder-

ately complex and exhibit differences of detail which are, perhaps, quite as significant, as Dr. Smith has shown them to be in *Lachno-steria*, I have, however, not attempted to investigate the matter thoroughly, as the use of these characters in such small insects would be quite impracticable. The species of this genus or at least some of them are known to pass the larval state in puff balls (*Lyco-perdon*). The perfect insects are found for the most part on oak foliage. The following table will not be difficult to use with properly mounted specimens, i. e., with specimens in which the antennæ have been drawn out and the head raised so that the palpi may be seen, the accomplishment of which requires some little patience and delicacy of manipulation on the part of the student. The descriptions will be found for the most part very brief and consist largely of comparisons with the common *oculata*, with which most students are or may easily become familiar.

Punctures of upper surface sparse, those of the head and pronotum especially fine and remote; those of the elytra arranged in somewhat regular series .....1. **frontalis.**

Punctures of upper surface moderately numerous, those of the elytra not arranged in series.....2.

2. Pubescence relatively short and much inclined; antennal club in male blackish, in female pale.....2. **syennoides.**

Pubescence longer and erect; antennæ pale in both sexes .....3.

3. Eyes of male but little larger than in the female, deeply acutely incised, or nearly divided in both sexes.....4.

Eyes of male larger than in the female, the front (♂) narrower than the longest diameter of the eye.....7.

4. Form less broadly rotundate; sexual disparity in the eyes more evident; front in ♂ a little wider than the longest diameter of the eye.

### 3. **similis.**

Form very broadly rotundate, sexual disparity in the eyes feeble; front in ♂ about one-half wider than the longest diameter of the eye .....5.

5. Last joint of antennæ (♂) fully four times as long as wide and distinctly arcuate.....6.

Last joint of antennæ (♂) about three times as long as wide, not arcuate, but similar in the sexes ..4. **lateralis.**

6. Last joint of palpi broadly triangular, as wide as long, the apex squarely truncate; size large, punctuation rather sparse and coarse...5. **oculata.**

Last joint of palpi less broadly triangular, distinctly longer than wide, the apex obliquely truncate; size smaller, punctuation finer and closer.

Color black, pubescence luteous .....6. **blanchardi.**

Color brown or piceous brown, pubescence fulvous.....7. **californica.**

Last joint of palpi narrow, that of maxillary palpus subparallel and more than twice as long as wide.....8. **neomexicana.**

7. Last antennal joint (♂) scimitar shaped, the tip acutely pointed; eyes cleft to the middle in the ♂, nearly divided in the ♀. Color black, head and prothorax dark rufous.....9. **bicolor**.  
 Last antennal joint (♂) arcuate, the tip rounded.....8.  
 Last antennal joint (♂) not arcuate, but of the ♀ type; last joint of maxillary palpus slender, subparallel, about two and one-half times as long as wide .....10. **tenuipalpa**.  
 8. Eyes (♂) cleft for fully three-fourths their length, form rotundate.  
 11. **inepta**.  
 Eyes (♂) cleft for barely two-thirds their length, form narrower.  
 12. **ovalis**.

1. **C. frontalis** n. sp.—Not very broadly oval; castaneous; pubescence sparse, erect, rather long, ochreous in color; punctuation everywhere fine and sparse; very remote on the head and pronotal disk; arranged in fairly regular series on the elytra. Terminal joint of maxillary palpi longer than wide, outer edge oblique; of labial palpi fully one-half longer than wide, transversely truncate and feebly sinuate at apex. First joint of antennal club (♀) nearly isosceles triangular and a little transverse. Eyes incised for two-thirds their length, the anterior portion relatively wider than in any other species. Front about one-third wider than the longest diameter of the eye, nearly flat, the epistomal suture and supra-antennal lines transformed into a broad deep groove, posteriorly flexed at its extremities. Ventral sutures not at all arcuate at middle; fifth ventral segment only about one-half longer than the fourth. Length 1.7 mm.

Described from a single example taken at Biscayne, Florida, by Hubbard and Schwarz.

This species is the most aberrant one of the genus, approaching *Eutylistus* in its more elongate form, sparser finer punctuation and serial arrangement of elytral punctures. It is therefore placed at the head of the genus. The type is apparently a female.

2. **C. scymnoides** Lec.—Form of *oculata*; black throughout, antennal club blackish or fuscous in the male, pale in the female. The pubescence is short, cinereous, strongly inclined and nearly uniform in direction, instead of confusedly bristling as in *oculata*; punctuation finer and denser than in *oculata*. Terminal joint of maxillary palpus slender, rather more than twice as long as wide, apex moderately oblique. Terminal joint of labial palpus broader but evidently longer than wide. Seventh joint of antennæ (♂) less strongly produced inwardly than in *oculata*, its width barely twice its length; eighth joint scarcely sinuate on its inner margin; ninth elongate-oval, not at all arcuate, about three times as long as wide, the apex obtusely rounded. Length 1.8-2.3 mm.

*Hab.*—Massachusetts (Tyngsboro, Blanchard); New York, New Jersey, Manitoba, Dakota, Montana, Colorado (Leavenworth Valley, Wickham); Nevada (Ulke collection).

It is evident from the above localities that this species is distinctly a northern one. It is conspicuously different from all our other species in its subrecumbent or strongly inclined pubescence and black antennal club in the male.

3. **C. similis** Say.—A little less strongly rotundate than *oculata*; eyes in the male longer, incised for about three-fourths their length, the front not or but just visibly wider than the longest diameter of the eye; eyes in the female smaller and nearly divided, the front much wider, and nearly as in *oculata*. Sculpture, pubescence, antennal and palpal structure virtually as in *oculata*. Length 2.3–2.5 mm.

*Hab.*—Massachusetts (Tyngsboro); North Carolina (Black Mountains and Round Knob).

A single specimen from the former locality collected by Mr. Blanchard, and numerous examples from the latter taken by Dr. Van Dyke and Messrs. Hubbard and Schwarz. It is evident from Say's description that his type was a female, and it has been assumed that it was *oculata*, and so set down as a synonym by Le Conte. So far as his description goes he may have had either *oculata* or the present species before him, and since—judging from the material at hand—the present one is rather the more common of the two in North Carolina, I have chosen to use Say's name for it rather than coin a new one.

4. **C. lateralis** Lec.—Similar in form to *oculata*, but much smaller, and with grayer pubescence. Terminal joints of palpi not quite as broad as in *oculata*; last antennal joint about three times as long as wide, less acutely rounded at tip, not sinuate on its inner side, scarcely differing in the sexes. Seventh joint in the male less strongly produced than in *oculata*. The punctures of the ventral segments are much less numerous than in *oculata*, there being about three punctures in the segmental width here, to five in *oculata*; the head is more sparsely punctate than in *oculata*. Length 1.2–1.5 mm.

*Hab.*—Florida (Crescent City and Tampa, Hubbard and Schwarz collection); North Carolina (Bowditch collection).

The marginal stria of the lateral lobe of the elytra referred to by LeConte is purely imaginary.

5. **C. oculata** Say.—Rotundate-oval; strongly convex; polished; black, the head frequently rufous or rufescent, antennæ and legs, especially the four anterior ones, rufous or rufotestaceous; pubescence erect, ochreo-cinereous. Terminal joints of maxillary and labial palpi (figs. 3 and 4) broadly triangular, the former nearly as wide as long, the latter slightly transverse, the apex squarely truncate or very nearly so in both. Seventh joint of antennæ (♂) (fig. 1) as long as the five preceding, strongly acutely and somewhat sinuously produced

inwardly, its width more than twice its length; eighth joint nearly as long as the width of the seventh, slightly increasing in width in basal third, then sinuately subparallel to apex, apical angle a little obtuse; ninth joint fully as long as the eighth but narrower, fully four times as long as wide, outer edge broadly arcuate, inner edge sinuate, tip moderately acute. In the female the seventh joint (fig. 2) is less than one-half wider than long and nearly of the form of an isosceles triangle; the eighth longer than the width of the seventh and scarcely sinuate internally; ninth relatively a little less elongate than in the male and not or only very feebly sinuate on its inner side. Eyes rather small, nearly divided, scarcely differing in the sexes; the front about one-half wider than their longest diameter. Head moderately closely punctate. Prothorax rather sparsely finely punctate at middle, the punctures becoming somewhat coarser and closer at sides, where they are separated by more than their own diameters. Elytral punctures coarser than those of the pronotum, irregularly placed with but faint evidences of serial arrangement, except between the lateral striæ, separated on the average by about twice their own diameters. Metasternum coarsely closely punctate; ventral segments closely but less coarsely punctate than the metasternum. Fifth segment as long as the two preceding united; the sutures slightly arcuate at middle. Length 1.75-2.25 mm.

Our commonest and most widely distributed species. The following localities are represented in the material at hand: All the New England States, New York, Pennsylvania, New Jersey, District of Columbia, North Carolina (Black Mountains), Ohio, Indiana, Illinois, Wisconsin, Michigan, Missouri, Kansas, Louisiana, Texas (Columbus), Arizona (Oracle and Santa Rita Mountains).

6. **C. blanchardi** n. sp.—Similar in form to *oculata*, but a little smaller and with finer closer punctuation. Pubescence yellowish gray. Terminal joint of maxillary palpus (fig. 6) about one-half longer than wide, the outer edge rather strongly oblique, the inner angle rounded. Terminal joint of labial palpus (fig. 7) fully one-half longer than wide, the outer edge moderately oblique. First joint of antennal club in the male (fig. 5) less produced inwardly than in *oculata*, its width barely twice its length; terminal joint a little sinuate on its inner side, nfaking it appear somewhat arcuate, the apex pointed. Eyes widely separated, nearly divided, not differing appreciably in the sexes. Front vaguely longitudinally costate at middle. Length 1.5-2.1 mm.

Described from a series of five examples taken at Tyngsboro, Massachusetts, by Mr. Blanchard, to whom it gives me great pleasure to dedicate the species. With these I have placed a Michigan (Detroit) specimen in the Hubbard and Schwarz collection, which is quite surely identical, and a small series from Oregon (National Museum collection, Koebele). I am not entirely certain that these last are identical with the Massachusetts types, but can find no differences of moment. The Oregon examples have hitherto passed



as *californica*, to which indeed they are very closely related, but the latter species is in my experience never truly black as is the present one, and the pubescence is more fulvous. The terminal joint of the antennæ in the female of *blanchardi* shows a slight tendency toward the form in the male by being slightly sinuate within, but this tendency, observable in the types, may not hold in larger series. The frontal costa is very vague, and is caused by the side slopes of the front meeting in a very obtuse and ill defined angle, which is usually marked by a narrow smooth line and only visible when viewed from the side. This frontal line is more or less evident in a number of species, but seems to be entirely wanting in *oculata*, *similis*, *lateralis*, *inepta* and *frontalis*.

7. **C. californica** Lec.—Form a little less broadly rotundate than in *oculata* and distinctly smaller; color varying from castaneous to piceous brown; pubescence fulvous. Palpi nearly as in *blanchardi*. Terminal joint of antennæ slightly sinuate on the inner side in the male; not sinuate, and relatively a little less elongate as usual in the female. Punctuation a little finer and closer than in *oculata*. Length 1.5–1.9 mm.

This species occurs on live oaks in California from the vicinity of San Francisco to San Diego. The species described above is that to which Casey gave the name *occidens*. He refers under his description to a black specimen with more densely punctate thorax from "Yountville, Napa Co.," which he conceives to be the true *californica*. LeConte does use the term "black" in his description and speaks of the thorax as more densely punctured than in *oculata*. Mr. Blanchard writes me, however, that the type is somewhat brownish, and as there is some individual variation in the punctuation of the thorax in this species I have no doubt that LeConte's species is the one here described. I have seen nothing corresponding with Casey's Napa County black species, unless it be the Oregon form referred to under *blanchardi*. The thorax is not notably more densely punctate in that.

8. **C. neomexicana** n. sp.—Very similar to *oculata*, from which it differs as follows: Head very vaguely subcostate; punctuation of upper surface denser; terminal joints of palpi slender, that of the maxillary palpus more than twice as long as wide, and that of the labial palpus obviously longer than wide. Length 1.7–2.5 mm.

New Mexico (Las Vegas); Arizona (Williams and Oracle); collected by Barber and Schwarz.

The very slender terminal joint of maxillary palpus occurs elsewhere only in *scymnoides* and *tenuipalpa*, the former at once separated by its regularly inclined pubescence, the latter by the larger less deeply incised eyes of the male.

9. **C. bicolor** Germ.—Form nearly as in *oculata*, size smaller, pubescence less distinctly yellowish. Color black, the head and prothorax dark rufous. Palpi as in *blanchardi*. Seventh joint of antennæ (♂) (fig. 8) nearly as strongly produced as in *oculata*, the terminal joint scimitar shaped. In the female the seventh joint is subequilateral triangular, the terminal joint scarcely arcuate, but with the apex a little more pointed than in *oculata*. Eyes larger in the male, cleft only to the middle, the width of the front distinctly less than the longest diameter of the eye. In the female the eyes are smaller, widely separated and nearly divided, as in *oculata*. Front vaguely costate. Length 1.5–2 mm.

A somewhat widely dispersed species, as is evident from the following localities.

Massachusetts (Tyngsboro); New Jersey (Orange); Virginia (Ft. Monroe); Kentucky (Frankfort); Michigan (Detroit); Kansas; Nebraska; Texas (Columbus).

This species is readily distinguished from all others in our fauna by the falcate terminal joint of the antennæ in the male. The color is practically constant in all specimens seen.

10. **C. tenuipalpa** n. sp.—Similar in form, punctuation and pubescence to *oculata*, but somewhat smaller in size. Terminal joint of maxillary palpi (fig. 10) narrow, about two and one-half times as long as wide. Seventh antennal joint in the male (fig. 9) nearly as strongly produced as in *oculata*; the terminal joint scarcely three times as long as wide, not at all sinuate or arcuate, the apex bluntly rounded, the form nearly identical in the sexes. Eyes of male large, cleft only to the middle, the front narrower than their longest diameter. Eyes in the female smaller, widely separated and nearly divided. Front subcostate. Length 1.3–1.8 mm.

This is also a widely dispersed species, occurring from the New England States to Texas, and practically identical in distribution with *bicolor*. The following localities are represented: Massachusetts (Tyngsboro); District of Columbia; North Carolina (Highlands, Blanchard); Michigan (Detroit); Tennessee (Bowditch collection); Illinois (Monroe Co., Soltau); Texas (Belfrage collection).

The sexual disparity in the eyes, the slender palpi and the unmodified terminal joint of the male antennæ, form a combination of characters peculiar to this species.

11. **C. inepta** n. sp.—So nearly identical in form, size, sculpture, etc., with *oculata* that it can only be distinguished from that species by the sexually modified eyes. These are obviously larger in the male, cleft for three-fourths their length, the front subequal to or a little narrower than their vertical diameter; smaller, widely distant and nearly divided in the female. The terminal joint of maxillary palpus is slightly narrower than in *oculata*, but the difference is not very conspicuous. The terminal joint of labial palpus and the antennal structure does not differ noticeably from *oculata*. Length 1.8–2.3 mm.

*Hab.*—New Jersey; Florida (Enterprise and Crescent City); Tennessee (Bowditch collection); Texas (Goliad, Schwarz).

12. **C. ovalis** n. sp.—Form more narrowly oval (less rotundate) than in any other species of the genus except *frontalis*. Eyes large in the male, cleft for two-thirds their length; front without trace of the median subcostiform elevation, about equal in width to the vertical diameter of the eye. Palpi not clearly visible, but with the terminal joints apparently nearly as in *oculata*. Antennæ (♂) as in *oculata*. Length 2.1 mm.

Described from a single male specimen collected by Hubbard and Schwarz in the Santa Rita Mountains of Arizona. The relatively elongate form combined with the ocular structure are sufficient to distinguish the species from any others at present known to us.

#### PTILININI.

The rather striking resemblance which the species of *Ptilinus* bear to certain Bostrychide genera has led to the belief—at least among American entomologists—that they should be regarded as a transitional form between the Anobiinæ and the Bostrychidæ, and in the Classification by LeConte and Horn we find this genus together with *Eucratocerus* constituting a separate tribe—the Ptilinini—and placed at the end of the Anobiinæ. In this position they are made to follow the Dorcatomini, the members of which differ greatly from *Ptilinus* both in structure and appearance, and offer only another instance of the incongruous associations which arise from the necessity of arranging in linear sequence forms which have in their development radiated from a common center, or have diverged from a common stem.

There can be no doubt that *Ptilinus* is a true Anobiide, and it appears to me to be most closely allied to the central group—the Anobiini—from which it has diverged in about the same degree as have *Petalium* and *Eupactus*, and it is equally hard to place. The resemblance to the Bostrychidæ is largely superficial, consisting chiefly in bodily form, sculpture and the structure of the anterior

tibie, and is, I am disposed to believe, due rather to similarity of habits and environment rather than to a community of origin. *Ptilinus* has, however, become so strongly individualized that it does not fit well anywhere in the series, and since similarity of habitus with the Bostrychides, whatever its origin, may fairly count for something, it has seemed best to leave the genus where it was placed by LeConte.

European systematists have not recognized in *Ptilinus* the type of a distinct tribe, the genus having long been assigned by them to the Xyletini, the genera of which, according to the system there in vogue, differ from the Anobiini in the three outer joints of the antennæ not being elongated. In view of the instability of antennal form in genera otherwise closely allied, this method of division seems to be an unfortunate one, and in this case brings together such discordant elements as *Trypophytis*, *Ptilinus* and *Lasioderma*.

The genus *Plumaria*, represented by a single species from the Caucasus, agrees with *Ptilinus* in the structure of the anterior tibiæ, in the general shape of the body, and in the disparity in form in the sexes, and should doubtless be associated with it wherever placed. *Euceratocerns*, associated by LeConte with *Ptilinus*, should not so stand, and has been removed (*vid. ante*) to the Anobiini. The antennæ are pectinate in the male in about the same degree as in *Ctenobium* and *Xeranobium*, and are not to be compared with the flabellate form prevailing in the male of *Ptilinus*. It should be remarked that the tabular character given in the Leconte and Horn Classification for the separation of the Ptilinini from the Anobiini, viz.: "Eyes distant from the prothorax" is fortuitous and totally unreliable. The principal characters of this tribe are given in the table on page 128, or will be found in the generic diagnosis below.

#### **PTILINUS** Geoffroy.

Mentum transversely subquadrate, very little narrowed anteriorly; terminal joints of both maxillary and labial palpi elongate-cylindrical, a little thickened before the base; penultimate joint of maxillary palpus short, moderately widened apically; of labial palpus elongate-clavate and a little arcuate; the palpi more hairy than usual. Antennæ 11-jointed, first joint moderately elongate and distinctly curved; second small, as wide as long; third elongate-cylindrical, with a basal process as long as the joint itself in the

male, acutely triangular in the female; 4-10 strongly flabellate in the male, broadly serrate in the female; eleventh very elongate and similar to the branches of the preceding joints in the male, oval, not much longer than the tenth in the female. Eyes round, not large but strongly convex; front feebly margined over the antennæ, quite strongly impressed along the epistomal suture. Prothorax as wide as the elytra, varying more or less in form in the sexes; surface granulato-rugose in the male, distinctly asperate anteriorly in the female; side margin narrow, not visible from above; front margin more or less serrulate or crenulate in the female; front angles a little obtuse and well defined, hind angles rounded but somewhat defined. Scutellum subquadrate and a little elevated. Elytra usually confusedly punctate, rarely with the punctures arranged somewhat in lines. The head is rather strongly deflexed and not visible from above, but the prothorax is scarcely or only feebly excavated for its reception; prosternum moderate in length before the coxæ, which are nearly contiguous; middle coxæ very narrowly separated; mesosternum nearly horizontal; metasternum moderately long, not declivous in front, median line sulcate posteriorly, hind margin not notched at middle; episterna wide, parallel; hind coxal plates very narrow, not distinctly dilated internally. Ventral segments 1-4 nearly equal in length at middle, the fifth segment longer; first suture broadly posteriorly arcuate at middle. Legs moderate, front tibiæ finely subserrate externally, terminated by a strong horizontal apical tooth; middle tibiæ similarly but less conspicuously armed; tarsi as long as the tibiæ, first joint as long as the two or three following, second shorter and equal to the third and fourth united, the latter short; the fifth joint slightly elongate.

The form in this genus is more cylindrical than usual, and rather more markedly so in the female; the pubescence is very short, fine and appressed. In the female the fifth ventral segment is acutely transversely carinate before the apex in most species, and this structure is in some species more or less evident in the males.

I have not been able to identify Randall's *Tomieus thoracicus*, which subsequent authors have referred to this genus. The description\* is very inadequate, but the "pitchy black" antennæ would

\* "*Tomieus thoracicus*.—Body cylindrical, a little rough, black; antennæ pitchy black; thorax subglobose, indistinctly punctured; elytra punctured, hardly striate, although in some lights the distribution of the punctures gives somewhat that appearance; apex entire. Length  $\frac{3}{20}$  in. Maine."

exclude all the species of *Ptilinus* known to us except the Californian *ramicornis*, which Randall could by no possibility have found in Maine. In both the LeConte and Horn collections are specimens labeled *thoracicus*, and all have yellow antennæ. Those so named in the LeConte cabinet are probably the species here regarded as *pruinus* Csy.; the Horn specimens are *lobatus* Csy., if I have properly interpreted the species.

The species known to me separate as follows:

- Elytra feebly but regularly striate-punctate, antennal rami very slender and much longer than the prothorax .....6.
- Elytra not at all striate, the punctures not serial in arrangement, except in ♂ of *acuminatus*; antennal rami never as long as the prothorax .....2.
2. Side margin of prothorax fine but well defined and even throughout, subapical transverse carina of last ventral segment distinct in both sexes...3.
- Side margin of prothorax irregularly granulato-serrate, and not very well defined; subapical ventral carina nearly or entirely wanting in both sexes.....5.
3. Antennal rami longer, that of the third joint about twice the length of the joint, that of the fourth joint six or seven times the length of the joint (Eastern U. S.).....1. **ruficornis.**
- Antennal rami shorter, that of the third joint subequal in length to the joint itself (Pacific Coast).....4.
4. Elytral punctuation confused and distinct from base to apex in both sexes; prothorax in the female sinuate at the sides subapically, the median lobe distinctly serrulate .....2. **basalis.**
- Elytral punctuation subserial in arrangement in the male; very fine, and distinct only toward the base in the female; prothorax in the latter sex arcuately oblique subapically, the apex angulate and slightly prominent, not at all serrulate .....3. **acuminatus.**
5. Ramus of fourth antennal joint scarcely three times the length of the joint; prothorax subequal to the elytra in width.....4. **lobatus.**
- Ramus of fourth joint nearly five times the length of the joint; prothorax a little narrower than the elytra... ..5. **pruinus.**
6. Prothorax broadly evenly arcuate at apex, feebly sinuate at middle, subapical ventral carina wanting in both sexes.....6. **ramicornis.**

1. **P. ruficornis** Say.—*Male.* Cylindrical, elytra not wider than the prothorax; black or piceous, opaque, antennæ and legs rufotestaceous, the thighs sometimes darker; pubescence exceedingly short, fine, and perfectly recumbent. Head evenly convex, moderately densely granulose; eyes separated by rather more than twice their longest diameter. Antennæ strongly flabellate, the ramus of the third joint about twice (more or less) as long as the joint; that of the fourth joint six or seven times as long as the joint. Prothorax slightly wider than long, widest before the base, sides broadly arcuate, apex narrower than the base; side margin very narrow, not obviously wider at the hind angles, scarcely at all serrulate, though sometimes a trifle irregular; hind angles rounded, front angles right, apical margin moderately strongly rounded, narrowly reflexed at

the middle, with one or two serrules each side the median notch; surface finely and rather sparsely granulose at base, more coarsely so anteriorly, especially toward the middle; median line feebly finely impressed in anterior half, terminating at the basal margin in a feeble smooth prominence. Elytra a little more than twice as long as the prothorax and very slightly less than twice as long as wide; finely scabrous and dull, the punctures rather coarse and distinct throughout, separated on the average by about twice their own diameters, rarely with trace of serial arrangement, except near the side margin. Beneath more shining than above, punctures finer and denser, but varying in size; last ventral with subapical transverse ridge, which is less acute than in the female, but plainly obvious from a posterior view point.

*Female*.—Larger and usually paler than the male, the color varying from pale castaneous to piceous; eyes smaller and less convex, antennæ strongly serrate; asperities at the anterior portions of the thoracic disk more pronounced than in the male; the sculpture otherwise feebler, the surface throughout less dull, the prothorax posteriorly distinctly shining; median lobe of the apical margin of the prothorax sinuate each side, and more narrowly rounded, with several teeth each side the middle; subapical ventral carina strong. Length 2.8-4.8 mm.

Northern States from New England to Dakota. The following localities are represented in the material at hand: Massachusetts, New York, "Canada," Ontario (Ridgeway), Pennsylvania, West Virginia, Ohio, Michigan, Wisconsin, Iowa, Dakota.

2. **P. basalis** Lec.—*Male*. Dark brown or piceous, the elytra often much paler, legs and antennæ pale; pubescence yellowish, longer and denser than in *ruficornis*, quite conspicuous on the elytra. Head nearly as in *ruficornis*, antennæ (fig. 31) with much shorter rami, that of the third joint being subequal to the length of the joint itself, the ramus of the fourth joint three or four times the length of the joint. Prothorax opaque, somewhat transverse, sides convergent and but slightly arcuate from basal fourth, apex broadly rounded, the apical lobe ill defined, its reflexed margin with a narrow feeble median sinuation and scarcely at all serrulate; surface granulato-rugose, with larger asperities anteriorly; median line not impressed, a minute smooth prominence at the basal margin. Elytra scarcely wider than the prothorax, three-fourths longer than wide, finely scabrous, dull or very feebly shining, punctures irregularly disposed and nearly uniform in size throughout. Last ventral with distinct transverse subapical ridge.

*Female*.—Larger and rather more robust, color nearly uniform, varying from castaneous to piceous; sculpture finer and surface more shining; margin of prothorax slightly sinuate each side of the apical lobe, which is thus better defined, its margin distinctly serrulate each side of the deeper median notch; last ventral with acute transverse subapical carina. Length 3-5.5 mm.

California, San Diego to Mendocino.

In specimens from northern California the antennal rami are somewhat longer than in those from the south, but they are so closely in accord in other respects that I have not considered them distinct; there is also some variation in the coarseness of the elytral



punctures, which, however, does not seem to depend on locality. *Flavipennis* Casey is evidently based on one of the extreme forms of this species with pale elytra. The variation from uniformly colored specimens is so gradual in a good series that this name cannot be given even varietal standing.

In the short review of the species of this genus given by Casey (Jour. N. Y. Ent. Soc., June, 1898) *basalis* is disposed of with the following brief characterization, which applies to the female: "Prothorax arcuately oblique subapically, the apex angulate and slightly prominent; elytra distinctly punctured only toward the base, the punctuation nearly obsolete toward the tip; thoracic lobe feebly and evenly crenulate." The principal character here given is the elytral punctuation. The description by LeConte does not hint at anything of the kind, nor do the types bear out the statement. Specimens of the species here regarded as *basalis* were sent to Mr. Blanchard, who, after comparing with the types at Cambridge, expressed himself as satisfied that they were identical. What Casey may have had in hand I cannot guess, as *acuminatus* Casey is the only species known to me having anything approaching the style of punctuation mentioned.

**3. *P. acuminatus* Csy.**—*Male*. Piceous, legs and antennæ paler; pubescence yellowish, rather dense on the elytra. Head evenly convex, minutely granulose; eyes prominent, separated by about twice their vertical diameter. Antennal rami moderate in length, that of the third joint subequal in length to the joint itself, the ramus of the fourth joint more than four times the length of the joint. Prothorax a little wider than long and equal in width to the elytra, widest just before the base, lateral margin very narrow but well defined and not at all serrulate or irregular; apical margin broadly rounded each side, the apex slightly angulate and minutely reflexed, without serrules; disk granulate and asperate as usual, median line scarcely visibly impressed. Elytra about three-fourths longer than wide, rather coarsely but sparsely nearly evenly punctate throughout, the punctures showing a tendency toward a serial arrangement. Last ventral with distinct subapical ridge.

*Female*.—Finely densely punctulate, surface scarcely rugose and more shining than in the male; apical margin of prothorax more distinctly ogival, acutely reflexed at middle, sides before the apex nearly straight and not at all serrulate; punctuation of elytra very fine, distinct only near the base. Subapical ventral carina long and acute. Length 2.5-4 mm.

California, Santa Cruz Mountains and vicinity of San Francisco.

Two males and six females are before me. The male described above was taken by myself in Marion County; it represents the smallest measurement given.

4. **P. lobatus** Csy.—The following is Casey's description: "*Female*. Body rather stout, cylindrical, dark piceo-castaneous in color throughout, the legs scarcely, the antennæ much, paler; lustre rather dull, the pubescence very short and dense on the elytra. Head convex, minutely and densely granulate, the transverse frontal impression distinct. Prothorax distinctly wider than long, widest at about the middle, narrowed slightly to the base, rapidly and just visibly sinuate to the apical lobe; surface minutely and densely granulose toward base, more coarsely, sparsely and irregularly so toward apex, the median line finely impressed. Elytra three-fourths longer than wide, equal in width to the prothorax, minutely and densely subgranulose in texture, with the punctures rather strong, sparse and distinct, feebler toward tip, where they are more distinctly intermingled with small granules, and the ground lustre is more shining. Length 4 mm.; width 1.5 mm. Nebraska."

I have referred to this species a series of specimens from Missouri to New Mexico, females of which agree well enough with the above description, except that the pubescence cannot fairly be called "dense." As compared with females of *ruficornis* the surface sculpture is more rugose, the lustre duller, the elytral punctuation closer and coarser, the feeble elevated lines more obvious. The median lobe of the anterior thoracic margin is as stated by Casey more completely serrulate; the side margin of the prothorax is very feeble, not at all flattened, finely irregularly granulato serrate; the subapical ventral carina nearly obsolete. The male does not differ materially from the female in color, but is more opaque as usual; legs rufocastaneous, antennæ paler; the antennal rami much shorter than in *ruficornis*, that of the third joint not longer than the joint itself, that of the fourth joint scarcely three times as long as the joint. The prothorax is scarcely visibly narrower than the elytra, the anterior lobe serrulate throughout, but more finely and remotely so laterally; side margin as in the female. Elytra slightly less than twice as long as wide; last ventral without subapical carina.

The series at hand varies from 3–5 mm. in length, and bears the following locality labels: Missouri (Horn collection, where it bears label *P. thoracicus* Rand.). Salina, Kansas (Knaus); Nebraska (Nat. Mus. collection); Superior, Nebraska (Knaus); Happy Hollow and Ouray, Colorado (Wickham); Las Vegas, New Mexico—9600 feet (Cockerell).

5. **P. pruinus** Csy.—*Male*. Black, opaque, antennæ pale rufous, femora and tibiæ piceous, tarsi pale. Differs from *ruficornis* as follows: Vertex obtusely carinate; antennal rami shorter, that of the third joint one-half longer than the joint itself; prothorax evidently a little narrower than the elytra, seven-tenths as wide as the latter behind the middle, side margin plainly serrulate through-

out, median line finely feebly impressed throughout its length, small basal smooth prominence obsolete, surface a trifle more roughly granulate; elytra three-fourths longer than wide; last ventral without subapical transverse ridge.

*Female.* Not recognized. According to Casey "A little larger and paler than the male, with more shining elytra, upon which there are indistinct traces on each of three or four feeble ridges. Prothorax larger, fully as wide as the elytra, rounded at the sides, widest just behind the middle, the surface more sparsely and decidedly granose toward the tip. Elytra scarcely three-fifths longer than wide, twice as long as the prothorax. Length 3.-3.5 mm.

Indiana; Ontario (Ridgeway, Kilman).

Casey's types were from the former locality. The single male from Ontario which I have here referred and which has served for the above comparison with *ruficornis* may not be identical. It agrees fairly well in most respects with Casey's description, in which unfortunately the antennæ are not compared with those of *ruficornis*, nor is the presence or absence of the subapical ventral carina indicated. According to Casey's description "the feet are scarcely paler, the antennal rami infusate, the elytra three-fifths longer than wide."

6. **P. ramicornis** Csy.—*Male.* Cylindrical, blackish, opaque, the elytra occasionally somewhat paler; legs pale, antennæ pale at base, the rami completely infusate; pubescence yellowish, moderately developed. Head densely granulato-scabrous and opaque, epistomal impression strong. Antennal joints 4-10 very short, the rami excessively long and slender (fig. 30). Prothorax a little wider than long, subequal in width to the elytra, sides parallel and straight in basal three-fourths, the apex broadly evenly rounded, the reflexed border crenulate each side the small median sinuation; side margin very narrow, equally wide throughout and not at all serrulate; surface coarsely densely granulato-scabrous. Elytra very nearly twice as long as wide, finely scabrous, the punctures feeble and arranged in nearly even slightly impressed striae.

*Female.*—Very similar to the male but more shining, the pronotal rugulosity sparser and nearly wanting toward the base, elytral declivity more flattened, with the intervals more uneven. Length 2.8-4.8 mm.

California, Santa Cruz Mountains, Pacific Grove (Fenyès), Pasadena, San Bernardino Mountains.

This is in several respects the most remarkable species in our fauna. The ramus of the third antennal joint is shorter than the joint itself, while the following rami are all longer than the prothorax, the longer ones being fully two-thirds the length of the elytra; they are also more slender and with longer pubescence than in any other species. The obtusely rounded anterior thoracic margin, and the elytral striae are also peculiar to this species. The subapical ventral carina is lacking in both sexes.

## Bibliography and Synonymy.\*

### Family PTINIDÆ.

#### Subfamily I. PTININÆ.

##### Tribe I. GIBBINI.

##### 1. GIBBIUM.

Scopoli, Introd. Ad. Hist. Nat. p. 505 (1777).

*Scotias* Czempinski, Dessert. inaug. p. 51 (1778).

1. *G. psylloides* Czemp. (*Scotias*), loc. cit. p. 51.  
*scotius* Fab. (*Ptinus*), Spec. Ins. i, p. 74 (1781); Syst. El. i, p. 327.  
 Duval, Gen. Col. Eur. iii, t. 52, fig. 260.

##### 2. MEZIUM.

Curtis, Brit. Entom. v, pl. 232 (1828).

1. *M. americanum* Lap. Hist. Nat. de Coleopt. i, p. 297.  
*bicolor* Dej. Cat. ed. 3, p. 130.  
*sulcatum* Woll. non Fab. Ins. Mad. 273 (1854).

##### Tribe II. PTININI.

##### 1. SPHERICUS.

Wollaston, Ins. Madeira, 263, pl. v, figs. 4, 5, 6 (1854).

*Tipnus* Duval, Glan. ent. i, p. 137 (1860).

1. *S. gibboides* Boield. (*Tipnus*), Ann. Soc. ent. Fr. 1856, p. 669.  
 Duval (*Tipnus*), Gen. Col. Eur. iii, t. 52, fig. 258.  
 Mulsant and Rey, Gibbicollés, p. 209, t. 13, figs. 4, 6, 8, 9.

##### 2. PITNUS.

Gorham, Biol. Cent. Amer. Col. iii, pt. 2, p. 197 (July, 1883).

1. *P. pygmæus* Gorh. loc. cit. p. 198.

##### 3. TRIGONOGENIUS.

Solier, Gay Hist. d. Chile, Zool. iv, p. 464.

1. *T. globulum* Sol. loc. cit. Col. pl. 11, fig. 7a-f.  
*furctus* Lec. Smith. Misc. Coll. vi, p. 100 (Dec., 1865).

##### 4. NIPTUS.

Boieldieu, Ann. Soc. ent. Fr. 1856, p. 662.

Duval, Gen. Col. Eur. iii, p. 210.

1. *N. ventriculus* Lec. Smith. Misc. Coll. xi, p. 13 (1859).
2. *N. hololeucus* Fald. Fanna Ent. Trans. Cauc. 214, 197, t. 7, fig. 6.  
 Boield. Ann. Soc. ent. Fr. 1856, p. 664.—Duval, Gen. Col. Eur. iii, t. 52, fig. 257.—Mulsant and Rey, Gibbicollés, p. 195.

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\* Most of the European synonymy has been omitted as being irrelevant to American students, and for a like reason only so much of European bibliography is given in addition to original references, as will enable the student to locate some good subsequent description of figure.

5. **NIPTINUS** new genus.

1. *N. ovipennis* n. sp.
2. *N. unilineatus* Pic. (Ptinus), Ann. Soc. Ent. Belg. xliv, p. 252 (1900).

6. **PTINUS.**

Linné, Syst. Nat. ed. 12, ii, p. 566 (1766).

## Subgenus PTINUS.

1. *P. villiger* Reitt. (Bruchus), Verh. Nat. Ver. Brünn, 1883, p. 311.
2. *P. bicinctus* Sturm, Deutschl. Faun. xii, p. 57.  
Boield. Ann. Soc. Ent. Fr. 1856, p. 639.—Mulsant and Rey, Gibbicollés, p. 140, t. viii, fig. 17, 20.
3. *P. brunneus* Duft. Faun. Austr. iii, p. 65.  
Boield. loc. cit. p. 654.—Mulsant and Rey, loc. cit. p. 149, t. 8, figs. 2, 19, 22; t. 9, fig. 11.
4. *P. fur* Linn. Syst. Nat. ii, p. 566.  
Fabr. Syst. El. i, p. 325.—Boield. loc. cit. p. 641.—Mulsant and Rey, loc. cit. p. 134, t. 8, figs. 1, 3, 7, 8, 11, 13, 15.  
(?) *humeralis* Say, Bost. Jour. Nat. Hist. i, p. 165.
5. *P. alternatus* n. sp.
6. *P. cælebs* n. sp.
7. *P. verticalis* Lec. Proc. Acad. Nat. Sci. Phila. 1859, p. 76.
8. *P. gandolphe* Pic. L'Echange, No. 233 (May, 1904).
9. *P. agnatus* n. sp.
10. *P. cognatus* n. sp.

## Subgenus GYNOPTERUS.

Mulsant and Rey, loc. cit.

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13. *P. strangulatus* n. sp.
14. *P. falli* Pic. L'Echange, No. 231, p. 19 (1904).
15. *P. tumidus* n. sp.
16. *P. bimaculata* Melsh. Proc. Acad. Nat. Sci. Phila. ii, p. 308.  
*frontalis* (♂), loc. cit.  
*rubroapicatus* Pic. L'Echange, No. 228, p. 183 (1903).
17. *P. hystrix* n. sp.
18. *P. eximius* n. sp.
19. *P. proluxus* n. sp.
20. *P. quadrimaculatus* Melsh. Proc. Acad. Nat. Sci. Phila. ii, p. 308.
21. *P. texanus* Pic. L'Echange, No. 228, p. 183 (1903).
22. *P. interruptus* Lec. U. S. P. R. R. Expl. and Surv. xii, p. 48 (1857).
23. *P. concurrens* n. sp.
24. *P. fallax* n. sp.
25. *P. vegrandis* n. sp.
26. *P. feminalis* n. sp.
27. *P. paulonotatus* Pic. L'Echange, No. 223 (May, 1904).

## Subfamily II. ANOBIINÆ.

## Tribe I. HEDOBIIINI.

## 1. HEDOBIA.

Latreille, Regne Anim. ed. 2, iv, p. 482, note.

1. *H. granosa* Lec. Trans. Am. Ent. Soc. v, p. 63 (1874).
2. *H. angulata* n. sp.

## 2. EUCRADA.

LeConte, Smith. Misc. Coll. iii, p. 202 (1861).

1. *E. humeralis* Melsh. (Hedobia), Proc. Acad. Nat. Sci. Phila. ii, p. 310 (1845).

## Tribe II. DRYOPHILINI.

## 1. XESTOBIUM.

Motschulsky, Bull. Mosc. 1845, p. 35.

Mulsant and Rey, Col. de. Fr. Térédiles, p. 119.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 226.

*Cnecus* Thoms. Skand. Col. i, p. 88 (1859); v, p. 145 (1863).

1. *X. rufovillosum* DeG. (Ptinus), Ins. iv, p. 230 (1774).  
*tesselatum* Fab. (Anobium), Ent. Syst. i, p. 236; Syst. El. i, p. 321.—Oliv.  
 (Anobium), Ent. ii, 16, p. 6, t. 1, fig. 1, etc.—Thoms. (*Cnecus*), loc. cit.  
 v, p. 145.—Mulsant and Rey, loc. cit. p. 122.  
*squalidum* Lec. Trans. Am. Ent. Soc. v, p. 64 (1874).
2. *X. affine* Lec. Trans. Am. Ent. Soc. v, p. 63 (1874).

## 2. UTOBIUM new genus.

1. *U. elegans* Horn (*Xestobium*), Proc. Cal. Acad. Sci. 2d ser. iv, p. 384, pl. 8, fig. 9.

## 3. MICROZOGUS new genus.

1. *M. insolens* n. sp.

## 4. OZOGNATHUS.

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2. *O. dubius* n. sp.
3. *O. floridanus* Lec. Proc. Am. Phil. Soc. xvii, p. 408 (1878).

## 5. XARIFA new genus.

1. *X. insularis* n. sp.

## 6. ERNOBIUS.

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LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 224.

*Conophoribium* Chev. Ann. Soc. Ent. Fr. 1861, p. 391.

*Liozoum* Muls. and Rey, Opusc. Ent. xiii, p. 92 (1863).

*Philorylton* Lec. Smith. Misc. Coll. iii, p. 205 (1862).

1. *E. mollis* Linn. (Ptinus), Syst. Nat. ii, p. 565.  
Fab. (Anobium), Syst. El. i, p. 323.—Mulsant and Rey (Liozoum) Térédiles, p. 163, t. 5, fig. 6.—Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 224.  
*convexifrons* Melsh. Proc. Acad. Nat. Sci. Phila. ii, p. 309.
2. *E. socialis* n. sp.
3. *E. punctulatus* Lec. (Anobium), Proc. Acad. Nat. Sci. Phila. 1859, p. 284;  
loc. cit. 1865, p. 225.  
*debilis* Lec. loc. cit. p. 225.
4. *E. convergens* n. sp.
5. *E. collaris* n. sp.
6. *E. alutaceus* Lec. (Philoxylon), loc. cit. 1861, p. 352; 1865, p. 225.
7. *E. crotchii* n. sp.
8. *E. gracilis* Lec. Bull. U. S. Geol. and Geog. Surv. v, p. 516 (1879).
9. *E. lacustris* n. sp.
10. *E. fissuratus* n. sp.
11. *E. nigrans* n. sp.
12. *E. pallitarsis* n. sp.
13. *E. tristis* Lec. Bull. U. S. Geol. and Geog. Surv. v, p. 517 (1879).
14. *E. montanus* n. sp.
15. *E. filicornis* Lec. loc. cit. p. 517.
16. *E. granulatus* Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 225.
17. *E. opicus* n. sp.
18. *E. luteipennis* Lec. loc. cit. p. 517.
19. *E. tenuicornis* Lec. loc. cit. p. 225.
20. *E. marginicollis* Lec. (Anobium), Proc. Acad. Nat. Sci. Phila. 1859, p. 87;  
loc. cit. 1865, p. 225.
21. *E. gentilis* n. sp.
22. *E. trapezoideus* n. sp.

## 7. **PARALOBIUM** new genus.

1. *P. mundum* n. sp.

### Tribe III. ANOBIINI.

## 1. **ACTENOBIUS** new genus.

1. *A. pleuralis* Casey (Eucratocerus), Jour. N. Y. Ent. Soc. vi, p. 65 (1898).
2. *A. macer* Casey (Eucratocerus), *ibid.*
3. *A. saginatus* Casey (Eucratocerus), *ibid.*

## 2. **EUCERATOCERUS**.

LeConte, Trans. Am. Ent. Soc. v, p. 65 (1874).

Casey (in pars). Journ. N. Y. Ent. Soc. vi, p. 65 (1898).

1. *E. hornii* Lec. loc. cit.

## 3. **XERANOBIUM** new genus.

1. *X. laticeps* n. sp.
2. *X. macrum* n. sp.
3. *X. cinereum* Horn (Ctenobium), Proc. Cal. Acad. Sci. 2d ser. iv, p. 355 (1894).
4. *X. desertum* n. sp.



4. **OLIGOMERODES** new genus.

1. *O. occidentalis* n. sp.
2. *O. catalinæ* n. sp.

5. **OLIGOMERUS**.

Redtenbacher, Faun. Austr. Ed. ii, p. 563 (1858).

Muls. and Rey, Col. de Fr. Térédiles, p. 198.

Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 228.

1. *O. tenellus* n. sp.
2. *O. sericans* Melsh (Anobium), Proc. Acad. Nat. Sci. Phila. ii, p. 309.—Lec. loc. cit. p. 228.  
*thoracicus* Lec. Smith. Misc. Col. iii, p. 205 (1862).
3. *O. californicus* n. sp.
4. *O. obtusus* Lec. loc. cit. p. 228.
5. *O. brevipilis* n. sp.
6. *O. alternans* Lec. loc. cit. p. 228.

6. **SITODREPA**.

Thomson, Skand. Col. v, p. 166 (1863).

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 229.

*Artobium* Muls. and Rey, Opusc. Ent. xiii, p. 82; Térédiles, p. 114.

1. *S. panicea* Linn. (Dermestes), Syst. Nat. ii, p. 564.  
Fab. (Anobium), Syst. El. i, p. 323.—Muls. and Rey, Térédiles, p. 114, t. 2, fig. 13; t. 3, fig. 10.—Thoms. loc. cit. p. 166.—LeConte, loc. cit. p. 229.  
*tenuistriatum* Say, Jour. Acad. Nat. Sci. Phila. v, p. 173; Ent. (Ed. Lec.), ii, p. 288.  
*obesum* Melsh. Proc. Acad. Nat. Sci. Phila. ii, p. 309.

7. **GASTRALLUS**.

Duval, Gen. Col. Eur. iii, p. 245, t. 53, fig. 262

Thoms. Skand. Col. v, p. 155.

1. *G. marginipennis* Lec. Bull. U. S. Geol. and Geog. Surv. v, p. 517 (1879).

8. **CTENOBIMUM**.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 229.

1. *C. antennatum* Lec. loc. cit. p. 230.

9. **PTINODES**.

LeConte, Smith. Misc. Coll. iii, p. 204 (1862).

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 230.

1. *P. setifer* Lec. (Anobium), Proc. Acad. Nat. Sci. Phila. 1858, p. 73.

10. **TRICHODESMA**.

LeConte, Smith. Misc. Coll. iii, p. 204 (1861).

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 230.

1. *T. cristata* Casey (Ptinodes), Ann. N. Y. Acad. Sci. v, p. 323 (1890).  
Horn, Proc. Cal. Acad. Sci. 2d ser. iv, p. 387 (1894).

2. *T. klagesi* n. sp.
3. *T. gibbosa* Say (Anobium), Jour. Acad. Nat. Sci. Phila. v, p. 171; Ent. (ed. Lec.) ii, p. 280.—Lec. Smith. Misc. Coll. iii, p. 205 (1861).
4. *T. beyeri* n. sp.
5. *T. texana* Schaef. Can. Ent. xxxv, p. 263 (1903).
6. *T. sellata* Horn, Proc. Cal. Acad. Sci. iv, p. 386 (1894).
7. *T. sordida* Horn, loc. cit. p. 387.
8. *T. pulchella* Schaef. Can. Ent. xxxv, p. 264 (1903).

## 11. NICOBIMUM.

LeConte, Smith. Misc. Coll. iii, p. 204 (1861).

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 231.

*Necobium* Muls. and Rey, Téréd. p. 106 (1864).

1. *N. hirtum* Illig. (Anobium), Mag. vi, p. 19.  
Muls. and Rey, Téréd. p. 107, t. 2, fig. 11; t. 3, figs. 9, 12.

## 12. ANOBIOPSIS new genus.

1. *A. sericans* n. sp.

## 13. ANOBIUM.

Fabricius, Syst. Ent. p. 62.

1. *A. striatum* Oliv. Ent. ii, 16, p. 9, t. 2, fig. 7 (1790).  
Thoms. Skand. Col. v, p. 165.  
*pertinax* Fab. Syst. El. i, p. 322.  
*domesticum* [Fourer (Byrrhus)] Muls. and Rey, Téréd. p. 76, t. ii, fig. 10; t. iii, figs. 2, 5.—Kies. Naturg. d. Ins. Deutschl. v, Lief. i, Anobiadæ, p. 107.  
*pumilis* Lec. (Hadrobregmus), Proc. Acad. Nat. Sci. Phila. 1865, p. 232.

## 14. HADROBREGMUS.

Thomson, Skand. Col. i, p. 89 (1859); v, p. 157.

Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 231.

*Hemicolus* Lec. Smith. Misc. Coll. iii, p. 204.

*Cacotemnus* Lec. loc. cit. p. 204.

1. *H. defectus* n. sp.
2. *H. carinatus* Say (Anobium), Jour. Acad. Nat. Sci. Phila. ii, p. 187; Ent. (ed. Lec.), ii, p. 120.  
Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 232.  
*Errans* Melsh. (Anobium) Proc. Acad. Nat. Sci. Phila. ii, p. 309; Lec. loc. cit. p. 232.
3. *H. linearis* Lec. loc. cit. p. 232.
4. *H. pusillus* n. sp.
5. *H. laticollis* n. sp.
6. *H. umbrosus* n. sp.
7. *H. gibbicollis* Lec. (Anobium) Proc. Acad. Nat. Sci. Phila. 1859, p. 284.

**15. MICROBREGMA.**

Seidlitz, Faun. Transylv. p. 537 (1891).

1. *M. emarginatum* Duft. Faun. Austr. iii, p. 54.  
Muls. and Rey (Anobium), Téréd. p. 98, t. 2, fig. 15; t. 3, fig. 8.—Thoms.  
(Anobium) Skand. Col. v, p. 164.  
*foreatum* Kirby (Anobium), Faun. Bor. Am. iv, p. 190.—Lec. (Hadrobreg-  
mus) Proc. Acad. Nat. Sci. Phila. 1865, p. 233.  
var. *granicoilis* n. var.

**16. CÆLOSTETHUS.**

LeConte, Smith. Misc. Coll. iii, p. 204 (1861).

*Dendrobium* Muls. and Rey, Téréd. p. 78. .

1. *C. notatus* Say (Anobium), Jour. Acad. Nat. Sci. Phila. v, p. 172 (1825); Ent.  
(ed. Lec.) ii, p. 281.
2. *C. americanus* n. sp.
3. *C. quadrulus* Lec. (Anobium) Proc. Acad. Nat. Sci. Phila. 1859, p. 87.
4. *C. alternatus* n. sp.
5. *C. truncatus* n. sp.

**17. TRYPOPITYS.**

Redtenbacher, Faun. Austr. Ed. ii, p. 562.

Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 234.

1. *T. sericeus* Say (Xyletinus), Jour. Acad. Nat. Sci. Phila. v, p. 172 (1825);  
Ent. (ed. Lec.), ii, p. 280.—Lec. loc. cit.
2. *T. punctatus* Lec. Smith. Cont. Knowl. ser. 2, xi, p. 13 (1859); loc. cit. p. 234.

**18. COLPOSTERNUS** new genus.

1. *C. tenuilineatus* Horn (Trypopitys), Proc. Cal. Ac. Sci. ser. 2, iv, p. 389 (1894).

## Tribe IV. XYLETININI.

**1. VRILLETTA.**

LeConte, Trans. Am. Ent. Soc. 1874, p. 64.

1. *V. convexa* Lec. loc. cit. p. 65.
2. *V. murrayi* Lec. loc. cit. p. 64.
3. *V. blaisdelli* n. sp.
4. *V. expansa* Lec. loc. cit. p. 64.
5. *V. laurentina* n. sp.
6. *V. plumbea* n. sp.

**2. EUVRILLETTA** new genus.

1. *E. xyletinoides* n. sp.

**3. XYLETOMERUS** new genus.

1. *X. histricus* n. sp.

**4. XYLETINUS.**

Latreille, Gen. Crust. et Ins. iv, p. 376.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 237.

1. *X. distans* n. sp.
2. *X. pallidus* Lec. loc. cit. p. 237.

3. *X. mucoreus* Lec. loc. cit. p. 237.
4. *X. peltatus* Harris (Anobium), Trans. Hartf. Nat. Hist. Soc. p. 75.
5. *X. harrisii* n. sp.
6. *X. fucatus* Lec. loc. cit. p. 238.
7. *X. pubescens* Lec. Proc. Am. Phil. Soc. xvii, p. 613 (1878).
8. *X. lugubris* Lec. loc. cit. p. 612.
9. *X. gracilipes* n. sp.

## Unrecognized Species:

- X. puberulus* Bon. Kong. Svens. Freg. Eng. Res. ii, Zool. Ins. p. 86 (1859).

5. **LASIODERMA.**

Stephens, Illust. Brit. Ent. v, p. 417.

Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 238.

1. *L. dermestinum* Lec. loc. cit. p. 238.
2. *L. serricorne* Fab. (Ptinus) Ent. Syst. i, p. 241.—Muls. and Rey [Pseudochina (Hypora)], Térédiles, p. 307  
*Ptilinus testaceus* Duft., *Xyletinus testaceus* Sturm., etc., *Lasioderma serricorne* Lec. loc. cit.
3. *L. bicolor* n. sp.
4. *L. semirufus* n. sp.
5. *L. hemiptychoides* n. sp.

6. **MEGORAMA** new genus.

1. *M. simplex* Lec. (Catorama) Proc. Acad. Nat. Sci. Phila. 1865, p. 239.
2. *M. frontalis* Lec. (Catorama) Proc. Am. Phil. Soc. xvii, p. 410 (1878).
3. *M. viduum* n. sp.
4. *M. ingens* n. sp.

## Tribe V. DORCATOMINI.

1. **PETALIUM.**

LeConte, Smith. Misc. Coll. iii, p. 204 (1861).

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 234.

*Rhadine Baudi*, Berl. Ent. Zeit. 1873, p. 331.

*Micranobium* Gorh. (in pars) Biol. Cent. Amer. Col. pt. 2, July, 1883, p. 202.

1. *P. schwarzi* n. sp.
2. *P. yuccæ* n. sp.
3. *P. seriatum* n. sp.
4. *P. californicum* n. sp.
5. *P. bistriatum* Say, Jour. Acad. Nat. Sci. Phila. v, p. 172; ed. Lec. ii, p. 281.—  
Lec. Proc. Acad. Nat. Sci. Phila. 1865, p. 235.  
var. *arizonense* n. var.  
var. *bicolor* n. var.  
var. *debile* n. var.
6. *P. brunneum* Horn. Proc. Cal. Acad. Sci. 2nd ser. vi, p. 375 (1896).

2. **EUPACTUS.**

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 235.

*Thaptor* Gorh. Biol. Cent. Amer. Col. iii, pt. 2, 1883, p. 205.

1. *E. nactus* n. sp.
2. *E. advenus* n. sp.
3. *E. obsoletus* n. sp.
4. *E. amœnus* n. sp.
5. *E. mixtus* n. sp.
6. *E. nitidus* Lec. loc. cit. p. 236.
7. *E. canonicus* n. sp.
8. *E. similis* n. sp.
9. *E. punctulatus* Lec. loc. cit. p. 236.

## Unrecognized Species.

*E. pudicus* Boh. (Anobium) Eugen. Resa. p. 86.

3. **THECA.**

Mulsant, Ann. Soc. Linn. Lyon, 1860, p. 293.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 235.

*Stagetus* Woll. Ann. Nat. Hist. 1861, p. 12.

1. *T. profunda* Lec. loc. cit.  
*striatopunctata* Lec. Trans. Am. Ent. Soc. xii, p. 22 (1884).

4. **CATORAMA.**

Guerin, Rev. et Mag. d. Zool. 1850, p. 431.

LeConte, Proc. Acad. Nat. Sci. 1865, p. 238.

*Hemiptychus* Lec. loc. cit. p. 239.

1. *C. punctulatum* Lec. Proc. Am. Phil. Soc. xvii, p. 409 (1878).
2. *C. vitiosum* n. sp.
3. *C. impressifrons* n. sp.
4. *C. sectans* Lec. loc. cit. p. 410.
5. *C. mutans* n. sp.
6. *C. estriatum* Horn (*Hemiptychus*), Proc. Cal. Acad. 2d ser. iv, p. 390 (1894).
7. *C. grande* n. sp.
8. *C. lentum* n. sp.
9. *C. conophilum* n. sp.
10. *C. latum* Horn (*Hemiptychus*), loc. cit. p. 391; *obsoletus* Lec. || loc. cit. p. 410.
11. *C. simplex* n. sp.
12. *C. metasternale* n. sp.
13. *C. inæquale* n. sp.
14. *C. abbreviatum* Lec. (*Hemiptychus*) loc. cit. p. 408.
15. *C. gibbulum* n. sp.
16. *C. carinatum* n. sp.
17. *C. ventrale* Lec. (*Hemiptychus*) loc. cit. p. 240.
18. *C. punctatum* Lec. (*Hemiptychus*) loc. cit. p. 240.
19. *C. densum* n. sp.
20. *C. dichroum* n. sp.
21. *C. nigripennis* n. sp.

22. *C. dispar* n. sp.
23. *C. nigrifulum* Lec. (Hemiptychus) loc. cit. p. 241.
24. *C. vestitum* n. sp.
25. *C. palliatum* Fall (Hemiptychus) Occas. Pap. Cal. Acad. Sci. viii, p. 253 (1901).
26. *C. placidum* n. sp.
27. *C. debile* Lec. (Hemiptychus) loc. cit. p. 408.
28. *C. posticum* n. sp.
29. *C. tumidum* n. sp.
30. *C. nubilum* n. sp.
31. *C. longulum* n. sp.
32. *C. uniforme* n. sp.
33. *C. fastigiatum* n. sp.
34. *C. otiosum* n. sp.
35. *C. congruum* n. sp.
36. *C. vexatum* n. sp.
37. *C. robustum* Horn (Hemiptychus) Proc. Cal. Acad. Sci. 2d ser. iv, p. 393.
38. *C. grave* Lec. (Dorcatoma) Proc. Acad. Nat. Sci. Phila. 1858, p. 72; *ibid.*  
1865, p. 240.
39. *C. porosum* n. sp.
40. *C. convexum* n. sp.
41. *C. castaneum* Ham. (Hemiptychus) Can. Ent. 1893, p. 307.
42. *C. politum* n. sp.
43. *C. triviale* n. sp.
44. *C. conjunctum* n. sp.
45. *C. boreale* Lec. (Hemiptychus) loc. cit. p. 240.
46. *C. pusillum* Lec. (Dorcatoma) Proc. Acad. Nat. Sci. Phila. 1858, p. 72; *ibid.*  
1865, p. 240.
47. *C. consobrinum* n. sp.
48. *C. simile* Lec. (Hemiptychus) loc. cit. p. 408.
49. *C. pingue* n. sp.
50. *C. vacuum* n. sp.
51. *C. cicatricosum* n. sp.
52. *C. luteotectum* Fall (Hemiptychus) Oc. Pap. Cal. Acad. Sci. viii, p. 253.
53. *C. geminatum* n. sp.
54. *C. gracile* n. sp.
55. *C. mancum* n. sp.
56. *C. validum* n. sp.
57. *C. confusum* n. sp.
58. *C. angustum* n. sp.
59. *C. parvum* n. sp.
60. *C. turbidum* n. sp.
61. *C. auctum* Lec. (Hemiptychus) loc. cit. p. 409.
62. *C. indistinctum* n. sp.
63. *C. exiguum* n. sp.
64. *C. obsoletum* Lec. (Hemiptychus) loc. cit. p. 240.

##### 5 **CRYPTORAMA** new genus.

1. *C. oblongum* n. sp.
2. *C. vorticale* n. sp.
3. *C. minutum* Lec. (Catorama) Proc. Am. Phil. Soc. Phila. xvii, p. 409.
4. *C. holosericeum* Lec. (Catorama) *ibid.*

6. **STICHTOPTYCHUS** new genus.

1. *S. agonus* n. sp.

7. **PROTHECA.**

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 241.

1. *P. hispida* Lec. loc. cit.
2. *P. puberula* Lec. *ibid.*

8. **DORCATOMA.**

Herbst, Käfer. iv, p. 103.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 242.

1. *D. dresdensis* Herbst. loc. cit. p. 104, t. 39, fig. 8.—Muls. and Rey, Téréd. p. 342, t. x, figs. 2, 4, 8, 14.  
*pallicornis* Lec. Proc. Bost. Soc. Nat. Hist. (1874), xvi, p. 274.
2. *D. integer* Fall (*Hemiptychus*) Oc. Pap. Cal. Acad. Sci. viii, p. 253 (1901).
3. *D. setulosum* Lec. loc. cit. p. 242.

9. **BYRRHODES.**

LeConte, Proc. Am. Phil. Soc. 1878, xvii, p. 412.

1. *B. setosus* Lec. loc. cit. p. 413.

10. **EUTYLISTUS** new genus.

1. *E. intermedius* Lec. (*Cænocara*) Proc. Am. Phil. Soc. 1878, xvii, p. 411.
2. *E. incomptus* Lec. (*Dorcatoma*) Proc. Acad. Nat. Sci. Phila. 1865, p. 243.
3. *E. tristriatus* Lec. (*Dorcatoma*) loc. cit. p. 411.
4. *E. ulkei* n. sp.
5. *E. levisternus* n. sp.
6. *E. granus* Lec. (*Dorcatoma*) loc. cit. p. 411.
7. *E. fallax* n. sp.
8. *E. facilis* n. sp.

11. **CÆNOCARA.**

Thomson, Skand. Col. i, p. 90 (1859); v, p. 174.

LeConte, Proc. Acad. Nat. Sci. Phila. 1865, p. 243.

LeConte, Proc. Am. Phil. Soc. Soc. 1878, p. 412 (table of species).

*Tylistus* Lec. Smith. Misc. Coll. iii, 1861, p. 203.

*Enneatoma* Muls. and Rey, Téréd. p. 367 (1863).

1. *C. frontalis* n. sp.
2. *C. scymnoides* Lec. loc. cit. p. 244.
3. *C. similis* Say (*Dorcatoma*) Bost. Jour. Nat. Hist. i, p. 166 (1835); Ent. (ed. Lec.) ii, p. 642.
4. *C. lateralis* Lec. loc. cit. p. 411.
5. *C. oculata* Say (*Dorcatoma*) Long's Exped. St. Peters. ii, p. 273 (1824); Ent. (ed. Lec.) i, p. 180.
6. *C. blanchardi* n. sp.
7. *C. californica* Lec. loc. cit. p. 412.  
*occidens* Casey, Bull. Cal. Acad. Sci. 1885, p. 330.
8. *C. neomexicana* n. sp.
9. *C. bicolor* Germ. Ins. Nev. p. 79.
10. *C. tenuipalpa* n. sp.
11. *C. inepta* n. sp.
12. *C. ovalis* n. sp.



## Tribe VI. PTILININI.

1. **PTILINUS.**

Geoffroy, Hist. de Ins. de Env. de Paris, i, p. 64.

Casey, Jour. N. Y. Ent. Soc. vi (June, 1898), p. 62.

1. *P. ruficornis* Say Jour. Acad. Nat. Sci. Phila. iii (1823), p. 186.(?) *bicolor* Mels. Proc. Acad. Nat. Sci. Phila. ii, p. 308.2. *P. basalis* Lee, Proc. Acad. Nat. Sci. Phila. 1858, p. 73.*flavipennis* Csy. loc. cit. p. 63.3. *P. acuminatus* Csy., loc. cit. p. 63.4. *P. lobatus* Csy., loc. cit. p. 62.5. *P. pruinosis* Csy. loc. cit. p. 63.6. *P. ramicornis* Csy. loc. cit. p. 63.

## EXPLANATION OF PLATE VII.

Fig. 1. *Ctenocara oculata* ♂, antenna.

" 2. " " ♀, "

" 3. " " terminal joint of maxillary palpus.

" 4. " " " " labial palpus.

" 5. " *blanchardi* ♂, antenna.

" 6. " " terminal joint of maxillary palpus.

" 7. " " " " labial palpus.

" 8. " *bicolor* ♂, antenna." 9. " *tenuipalpa* ♂, antenna.

" 10. " " terminal joint of maxillary palpus.

" 11. " " " " labial palpus.

" 12. *Trilletta convexa* ♂, antenna." 13. " *murrayi* ♂, "" 14. " *plumbea* ♀, "" 15. " *laurentina* ♀, "" 16. *Envrilletta xyletinoides* "" 17. *Xyletomerus histricus* "" 18. *Xestobium rufovillosum* "" 19. " *affine* "" 20. *Utobium elegans* "" 21. *Xeranobium macrum* "" 22. " *desertum* "" 23. " *laticeps* "" 24. " *cinereum* "" 25. *Oligomerodes occidentalis* antenna." 26. " *catalinæ* ♂, "

" 27. " " ♀, "

" 28. *Actenobius pleuralis* "" 29. *Euceratocerus hornii*, ♂, "" 30. *Ptilinus ramicornis* ♂, "" 31. " *basalis* ♂, "" 32. *Eutylistus granus*, metasternal lobe." 33. " *fallax* " "" 34. " *facilis* " "